Changing Approaches
to
The Design of British New Town Centres

A dissertation prepared for a
Master in Architecture

by

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PREFACE

To my Parents

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PREFACE

A. ACKNOWLEDGEMENTS

I am greatly indebted to the Algerian government for the grant which enabled me to reach this stage in my studies.

I wish to thank especially Mr. G. Kennedy and Mr. B. Edwards, my former and present supervisors for stimulating and sustaining my interest throughout the period of research.

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I am indebted to the competence of Miss Mary Ferry the typist.

Finally, I dedicate this work to my family and especially to my father.

B. SCOPE OF THE DISSERTATION

The dissertation presents a study of new town centres.

1) It consists firstly of looking at how different approaches to the design were adopted from one generation of new town to another and why.
2) How do these town centres perform nowadays in terms of functional and visual dimensions?
3) What will be the future new town centre.

C. SUMMARY

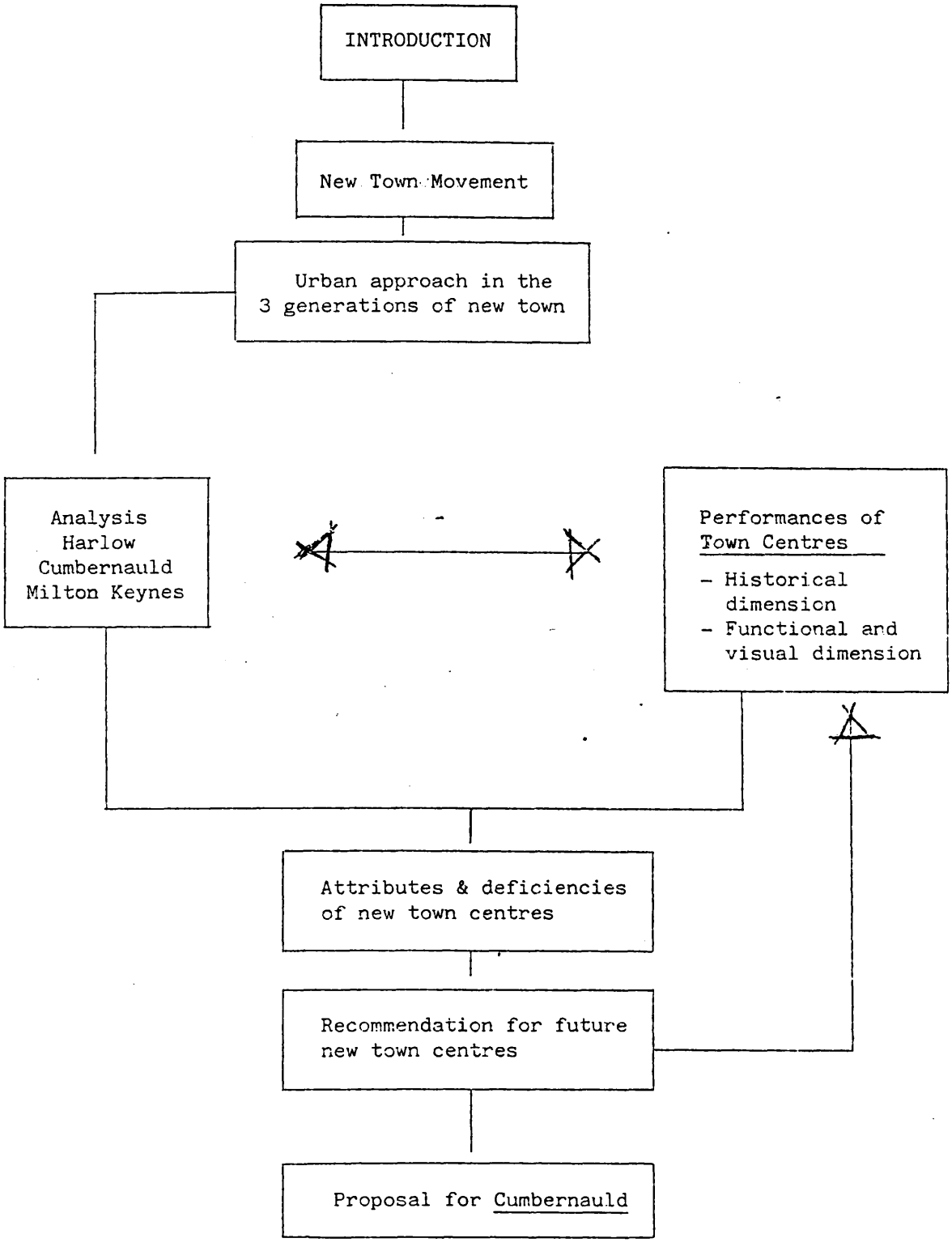
The first chapter is a brief introduction to the new town movement by looking back in history from the Garden City movement to the new towns policy and Acts of Parliament.

The different approaches to the design in the three generations of new towns will be defined in the example of Harlow, Cumbernauld and Milton Keynes, with the emphasis on the composition of their centres.

In the third chapter the three town centres will be analyzed in terms of functional and visual devices on the basis of elements defined as performances of town centres. The number of plates may look excessive but it was necessary to give the reader the possibility of visiting the whole centre.

After the analysis of the three centres, attributes and deficiences will be outlined to lead to some recommendations for future town centres.

Finally a proposal for remedying action will be made for one town centre, Cumbernauld.


INTRODUCTION
New Town Movement
Urban approach in the 3 generations of new town
Analysis
Harlow
Cumbernauld
Milton Keynes
Performances of Town Centres
- Historical dimension
- Functional and visual dimension
Attributes & deficiencies of new town centres
Recommendation for future new town centres
Proposal for Cumbernauld

INTRODUCTION

Introduction

Towns and cities are usually recognised and in most cases remembered by their centres which present the image which identifies towns and cities in people's minds.

This image is often determined and emphasized by the urban and social qualities that the centre offers to the observer.

The new towns by and large aimed to have centres that provide this image and give each new town its own character and identity.

During the last forty years these centres have shown a considerable change in the design, almost a revolution due to a change in attitude to the function of the shopping street, and to a lesser extent, to new form of shopping. (1)

The aim of this thesis is to try to look closely at these changes to see why and how they occured, and how these centres work at the present time.

Hopefully from this, evidence could be collected in order to pick out attributes and deficiencies, to see the problems to anticipate and the pitfalls to avoid in our recommendation for future new town centres.

These recommendations, however, will be focused on the visual aspect of the new town centres on which G. Cullen commented: "Why are they so lacking in visual character, warmth, surprises, stimulus, drama? Were they planned with little or no feeling of urban design?"(2).

Three new towns, Harlow, Cumbernauld and Milton Keynes will be analysed with particular attention and focus to their centres.

The choice of these specific new towns is that each one had brought a new concept in its generation.

- Harlow the big scale new town with a regional town centre.
- Cumbernauld came up with a megastructure, multi-level centre.
- Milton Keynes as a city scale using the grid pattern concept.

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CHAPTER 1

THE NEW TOWN MOVEMENT

CHAPTER 1 THE NEW TOWN MOVEMENT.

1.1 The Garden City Concept

The last two centuries, cities experienced unprecedented growth.

Until the emergence of new towns few cities were conceived as a whole with public provision for all the physical and social components needed for a well balanced environment.

The explosion of development during the nineteenth century created tremendous problems in large cities resulting in social degradation, overcrowding, congestion and disorder. (1)

The modern new towns movement can be traced back to the turn of the century and in particular to the pioneering work of Ebenezer Howard (1898) illustrated by his book "Tomorrow: A peaceful path to real reform". (2)

This book was instrumental in guiding the modern town planning movement and formulating its objectives. Howard's prime contribution was to outline the relationships between a balanced community and to illustrate the steps necessary in an ill organized and disoriented society to bring it into existance (3).

Howard approached the entire problem of the city's development, not merely its physical growth but also the inter - relationship of urban function within the community and the integration of urban and rural patterns for the vitalizing of urban life on one hand and the intellectual and social improvement of rural life on the other.

The garden city as Howard defined it is not a suburb but the antithesis of a suburb, not a more rural retreat, but a more integrated foundation of all effective urban life. (4).

Howard's idea was expressed by his drawings of the three magnets symbolizing one idea of completeness, a planned community

which contains the best of town and country and excludes the evils of both. fig. 1.1. Howard also made provision for a planned landscape outside the town combining the virtues of rural and city life.

His garden city plan for 1898 also uses the circle as the basis for centralised city, surrounded by six satellite towns (fig. 1.2)

This concept of centrality was strongly emphasized geometrically and geographically by superimposing the heart of the whole city on the centre of the circle giving equal individual and easy access from the satellite towns and making the centre the focal and convergent point.

1.2 Town Growth and governmental intervention

It was not until after the second world war, that the new towns were accepted as part of public policy with the passing of the new towns Act 1946 (5).

Before the second world war the British were concerned with the foundation of an overall policy of land development.

The outlines of such development were formulated in the Barlow Report of 1940 (6) which studied the distribution of industrial population and the urban and economic disadvantages of over concentration of development and to suggest solutions.

The Report was presented in January 1940 and set out the first stage of nationwide plan. After describing the development of urban and industrial concentration since the beginning of the nineteenth century and analysing its causes the Report lists the disadvantages of this concentration.

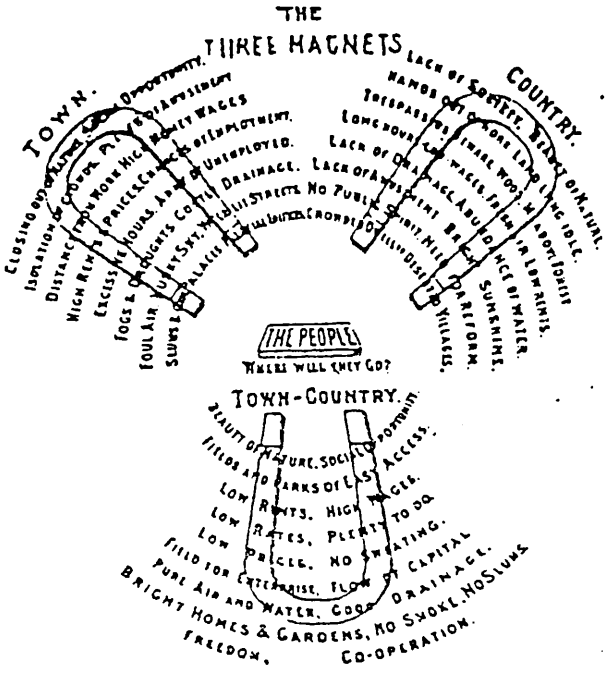

Figure 1.1 - The Three Magnets

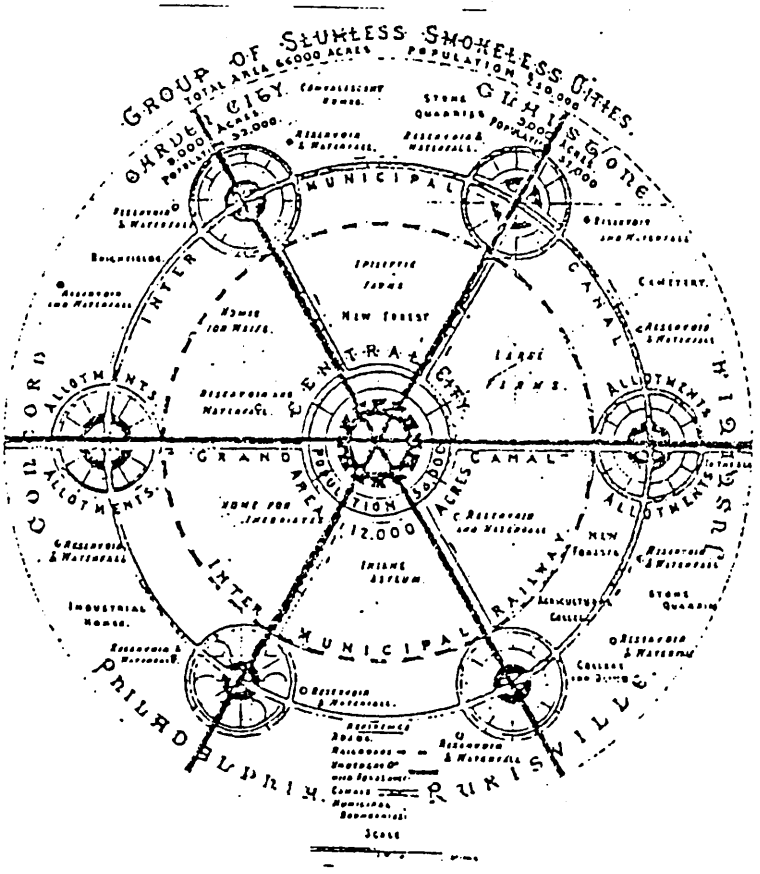

Figure 1.2 - The six satellite towns around centralised city

a) Strategic ground - Vulnerability to air or other attacks.

b) Social grounds - Poor housing conditions.

c) Economic grounds - 1) traffic congestion.

2) Length commuting.

3) High cost of land.

Following a lengthy examination of the solutions available under existing legislation the Report considered

a) The need to reorganise urban areas.

b) The establishment of a policy of decentralisation and deconcentration of industry.

c) The search for a balance between different regions with respect to the size and variety of undustrial activity.

The commission laid particular stress on the problem of the London area considering it, a critical example of a congested and overlarge built up area.

Following the Barlaw Report the Ministry of Works and Planning was created in 1942 and the Ministry of Housing and Local Government in 1951. This Ministry under its different titles was to take responsibility for the building of New towns (7).

The main themes of the Barlow Report were adopted and developed by Sir Patrick Abercrombie in the Greater London Plan (8) on the following lines

1) No fresh industry was to be established in the county of London or its adjoining counties and regulations for controlling the increase of industrial employment were to be established.

2) A number of industries and their personnel were to be dispersed

3) The total population of London should be decreased.

4) Limits could be imposed on density within the County of London and that suburban sprawl could be stopped by establishing a green belt around the built up area.

5) The port of London was to retain its important role.

6) A new planning organisation was to be set up to serve the London region.

7) The dispersal of proportion of the population by the creation of moderate - sized new towns with a population of about 50.000, comparable to the garden cities envisaged by Ebenezer Howard in the early days of the Century. Two of these, Lechworth and Welwyn Garden City had already been partly built.

1.3 New towns Policy.

Although the Abercrombie Plan was only being partly achieved (9), the creation of the New towns has been a significant outcome.

In 1946 a Royal Commission presided by Lord Reith was set up to study the general problems connected with the establishment, organisation and administration of the new towns within a framework of a planned system of decentralisation of congested urban areas.

The Reith Report (10) published in 1946 was to guide the Labour Government in its successful introduction of the new towns Act of the first August 1946 (11) with suggestion that the new towns should be self contained rather than satellites.

Under this Act 28 New towns have been established in Great Britain (fig. 1.3) Eight of them some twenty to thirty miles from London, all designated between 1946 - 1950, to relieve conjestion in the capital by moving people and jobs to communities beyond a green belt.

These new towns are Welwyn Garden City which existed and partly achieved, Stevenage, Harlow Hatfield, Hemel Hempstead, Bracknell, Basildon and Crawley.

Moving Northwards three designations tok place in the sixties at Milton Keynes (1967) Peterbrough (1967) and Northampton (1968). These were major expansions of existing towns and were quite undependent of London.

Further North there are two in the West Midlands at Telford and Redditch. Both towns were based on substantial existing population and were intended to relieve congestion of population and industry in the West Midlands oonurbation.

At Corby (1950) a New town was designated specially to provide houses for workers in the local steelworks which had been opened before the war (12).

In the North West in Lancashire, four new towns, Runcorn (1964), Skelmersdale (1966) Central Lancashire (1967) and Warrington (1968) had the task to relieve congestion of South Lancashire - mainly of Liverpool - and the reverse the drift of population away from the region and attract people and industry to it (13).

Furthe North to the East Peterlee (1948) and Newton Aycliffe (1947) were designated to provide housing for people working

in the Aycliffe Industrial Estate.

Washington (1964) was to be a stimilus to industrial development in the region.

There are five new towns in Scotland. The first to be designated was East Kilbride (1947) with the purpose of assisting in the decentralisation of housing and industry from Glasgow.

Glenrothes (1948) was originally intented to provide housing for miners working at a nearby newly developed pit, but unfortunately, the pit had a very short life and was closed in 1962 since then. However Glenrothes has been a general growth point.

Cumbernauld (1955) and Livingston (1962) were designed as high density towns to house Glasgow overspill, while Irvine (1966) situated near the coast was intended to provide for economic growth in an area known to be attractive to industry. It was thought to be near enough to Glasgow however to make a sizeable overspill contribution.

The periods of new towns are referred to as the first generation which was in the fifties, the second generation in the sixties and the third generation in the seventies.

Figure 4.3 - Map showing new towns in Great Britain and NOrthern Ireland.

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CHAPTER 2

URBAN APPROACH IN THE THREE GENERATIONS OF NEW TOWNS AND THE CHANGING GOAL IN THE DESIGN

CHAPTER TWO URBAN APPROACH IN THE THREE GENERATIONS OF NEW TOWNS AND THE CHANGING GOAL IN THE DESIGN

Introduction to the Three New Towns and Composition of their Centres

The new town movements have been through different phases in history and the concept saw several changes in the design.

These changes were interpreted as the evolution of the new towns.

This evolution can be divided into three generations. The first generation was just after the war, during the fifites, and the planning was influenced by the ideas inherent in the original garden cities of Lechworth and Welwyn (1).

These towns were intended to be limited in size and surrounded by substantial areas of open country. The broad pattern that evolved in the master plan was based on a segregation of work, home and leisure, preference of openness, home with private garden and finally centres providing the needs for the community. This concept was called zoning.

The principle of urban form was based on cells and elaborated into hierarchical principles with housing groups combining into introverted, self-contained neighbourhoods separated by green wedges, neighbourhoods into districts and districts united around a centre to form with the industrial zone a town (2).

2.1 Harlow

Harlow was one of the first new town generations and one of the eight satellite towns designated in Greater London Town (2a).

The site of 6,395 acres (2,490 ha) was designated on March 1947. It is about 23 miles (37 km) north-east of London and lies to the south of the Strot Valley and the railway line from Liverpool Street to Cambridge (4) (figure 2.1).

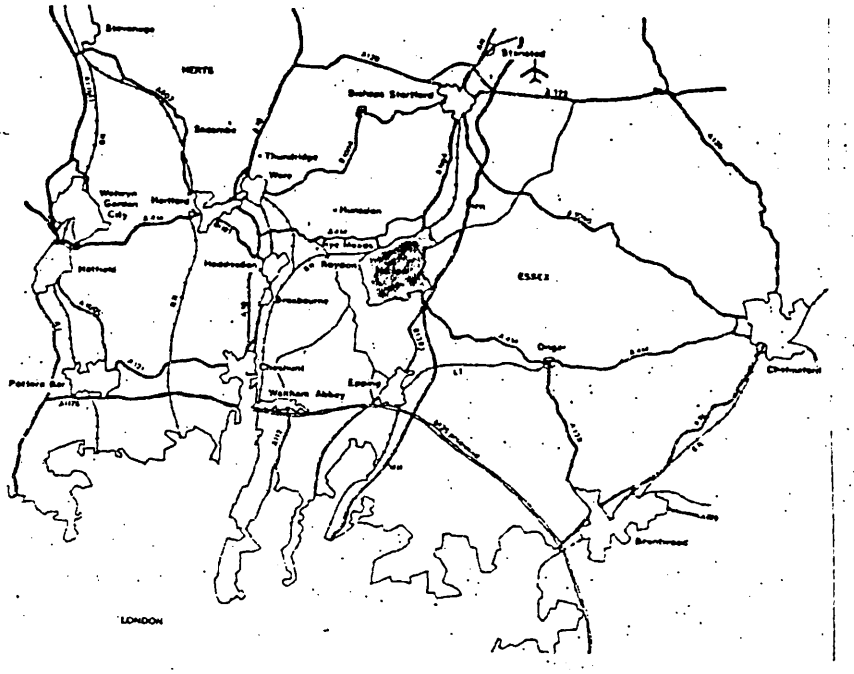


Figure 2.1 - Location of Harlow.

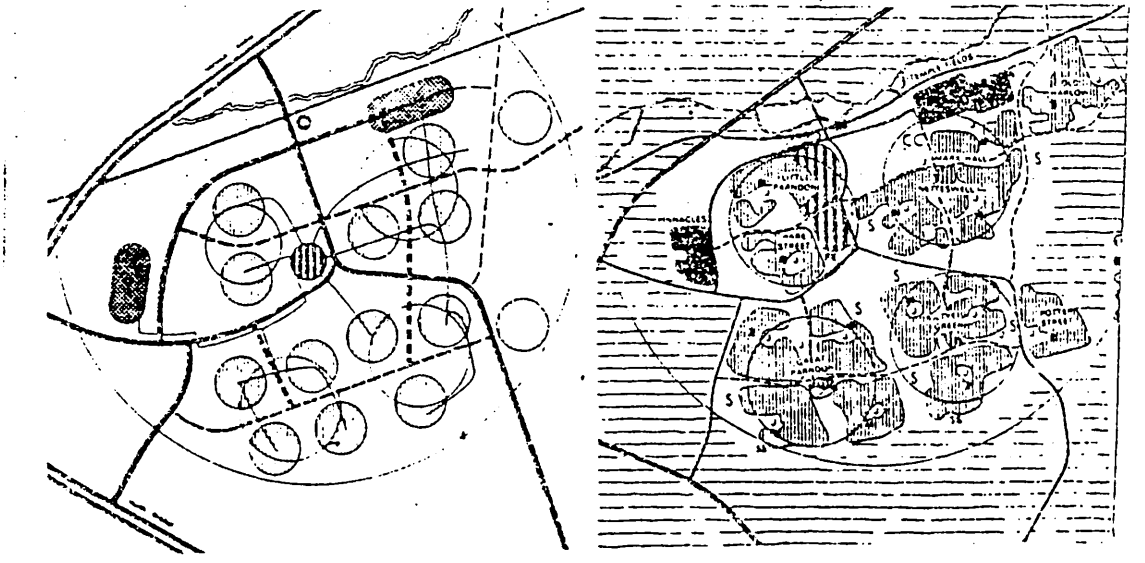


Figure 2.2a - Basis diagram of Harlow Plan.

Town Centre & Sub-Centres

Residential Area

Industry

Open Spaces & Agricultural Land

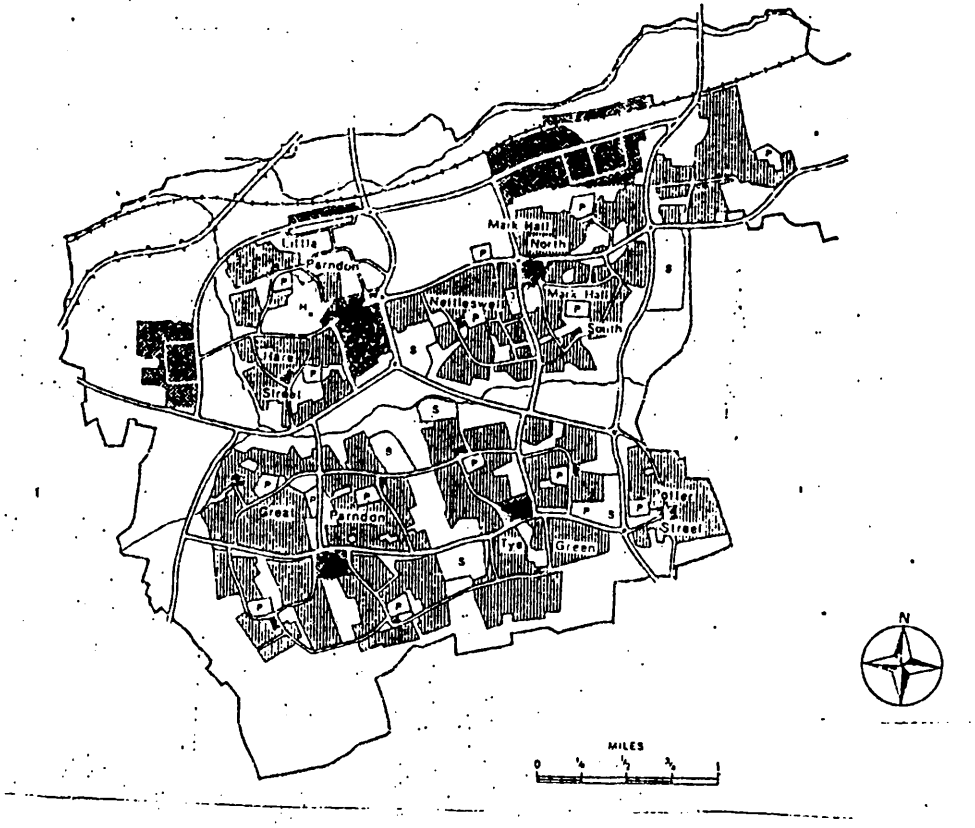


Figure 2.2b - Plan of Harlow.

In early 1947 Sir Frederick Gibberd was appointed by the minister of town and country planning to prepare a master plan. This was published in August of that year and approved in January 1948 (5).

The town was originally designed for a maximum population of 60,000 but the experience of the first year of planning showed that more economical use of the land could be made and as a result the population was increased to 80,000 without changing the plan (6).

The armature of the town consists of three primary roads radiating to the centre and secondary roads connecting the housing groups and neighbourhood centres to each other (figure 2.2). There are four main groupings in the plan for residential areas. Hare Street, The Stow, Staple Tye and Buch Fair.

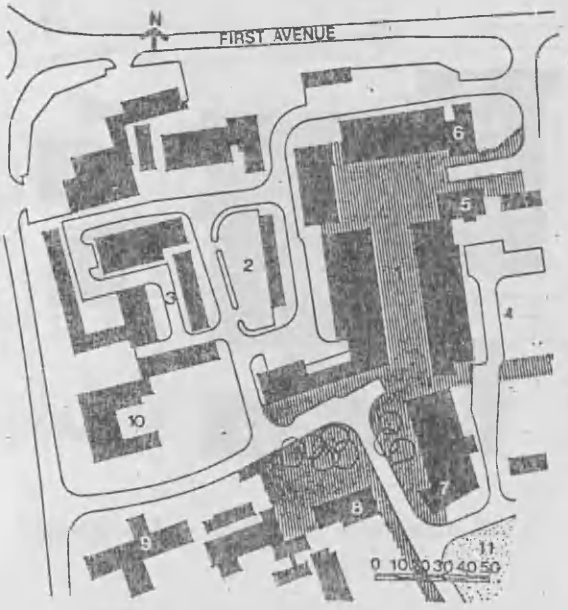
2.1.1 Composition of Sub-Centres and Town Centre

2.1.1.1. Sub-Centres

Each neighbourhood has its own sub-centre except for Hare Street which is close to the town centre.

The Stow is the sub-centre for the north-eastern group. Buch Fair for the south-eastern group and Staple Tye for the south-western group. These neighbourhood centres consist of a row of shops, a public house, a church and a primary school.(7)

2.1.1.1.1. The Stow



1. Shopping Mall
2. Car Park
3. Service Industry
4. Housing
5. Pub
6. Post Office
7. Library
8. Community Centre
9. Health Centre
10. Church
11. Playing Fields

Figure 2.3 - Plan of The Stow

The design of The Stow combines the shopping with social and recreational facilities. It consists of two squares connected by a narrow mall on Z-shaped plan to produce effects of enclosure in either direction. The north square is primarily commercial with offices over shops. The straight mall is formed by maisonettes on the upper levels and shops on the ground floor. The southern square is mainly social centre with the library and the hall.

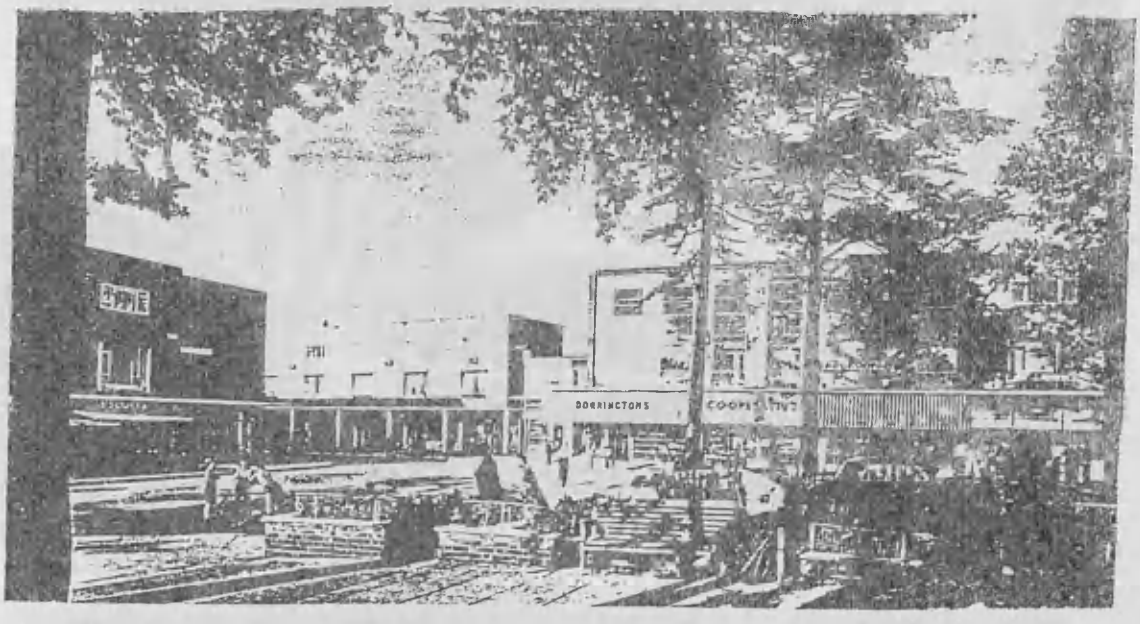
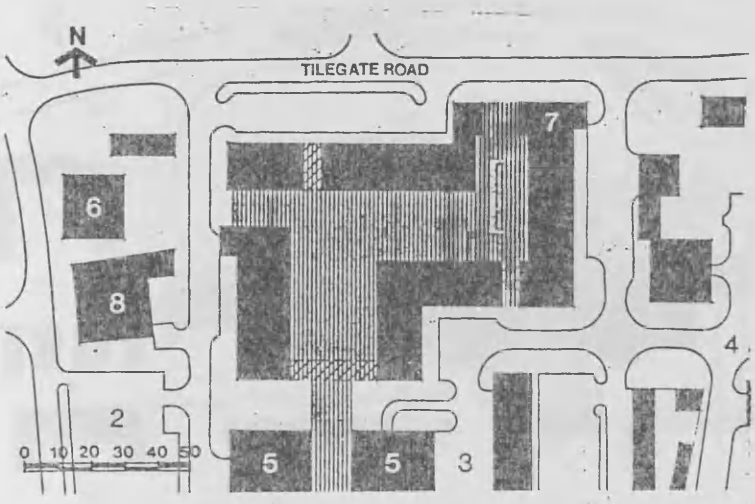


Figure 2.4 - View of the South Square.

2.1.1.1.3 Buch Fair



1. Shopping Mall
2. Car Park
3. Service Industry
4. Light Industry
5. Housing
6. Church
7. Post Office
8. Pub

Figure 2.5 - Plan of the Buch Fair.

The centre has the same Z-shaped plan form as the Stow, but designed as a precinct.

The activities are less segregated as than they were in The Stow. Shopping, social and recreational facilities are side by side. A close vista by a church to the west of the mall. As in The Stow centre the Z-shaped plan made it possible to close the views by buildings which provoke anticipation and surprises.

View from the mall looking east, a close vista by anonymous building.

2.1.1.1.3 Staple Tye

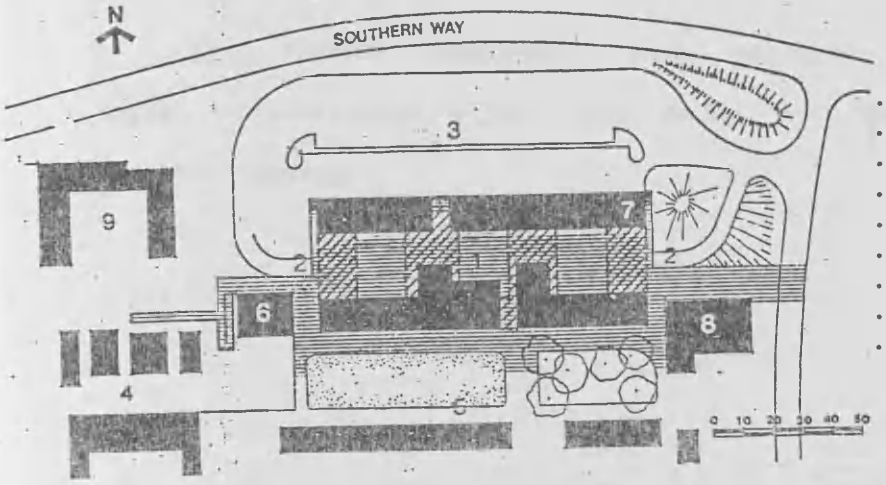
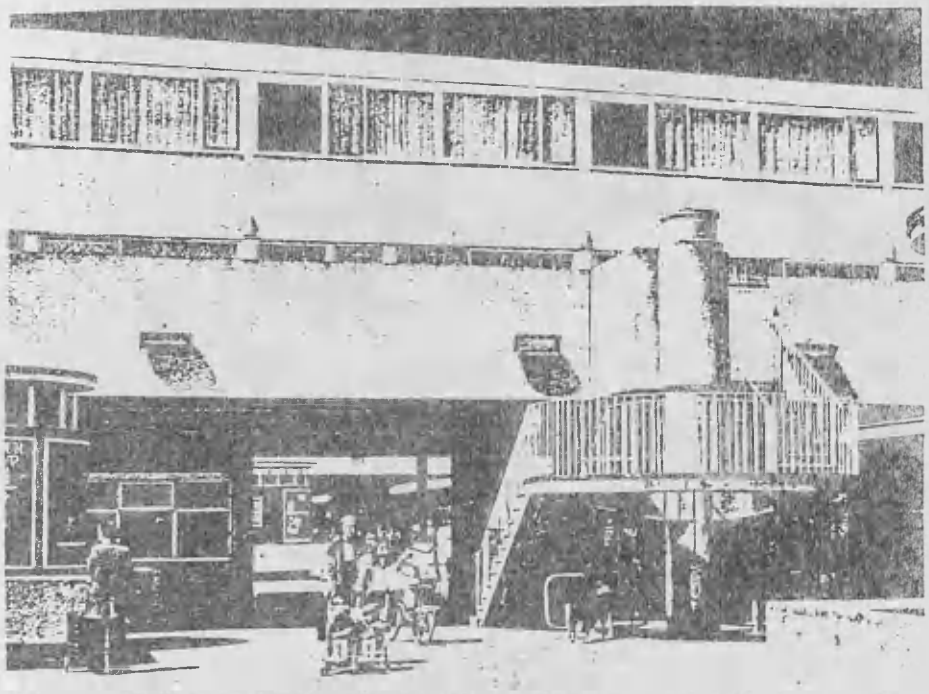


Figure 2.7 - Plan of Staple Tye.

The plan consists of a long two level rectangular shopping block with car park on the north and children's play area and high density housing on the south.

Shops face each other across the mall, which is spanned by four maisonette blocks. The introduction of residential functions into the centre brought life and movement after the closing hours of shops.

Servicing the mall is from a road running underneath the centre which was a new introduction in designing new town centres.



Maisonette block spanning the shopping mall.

For further facilities, more extensive activities and social co-ordination - the town centre was the place created for this purpose.

2.1.1.2 The Town Centre

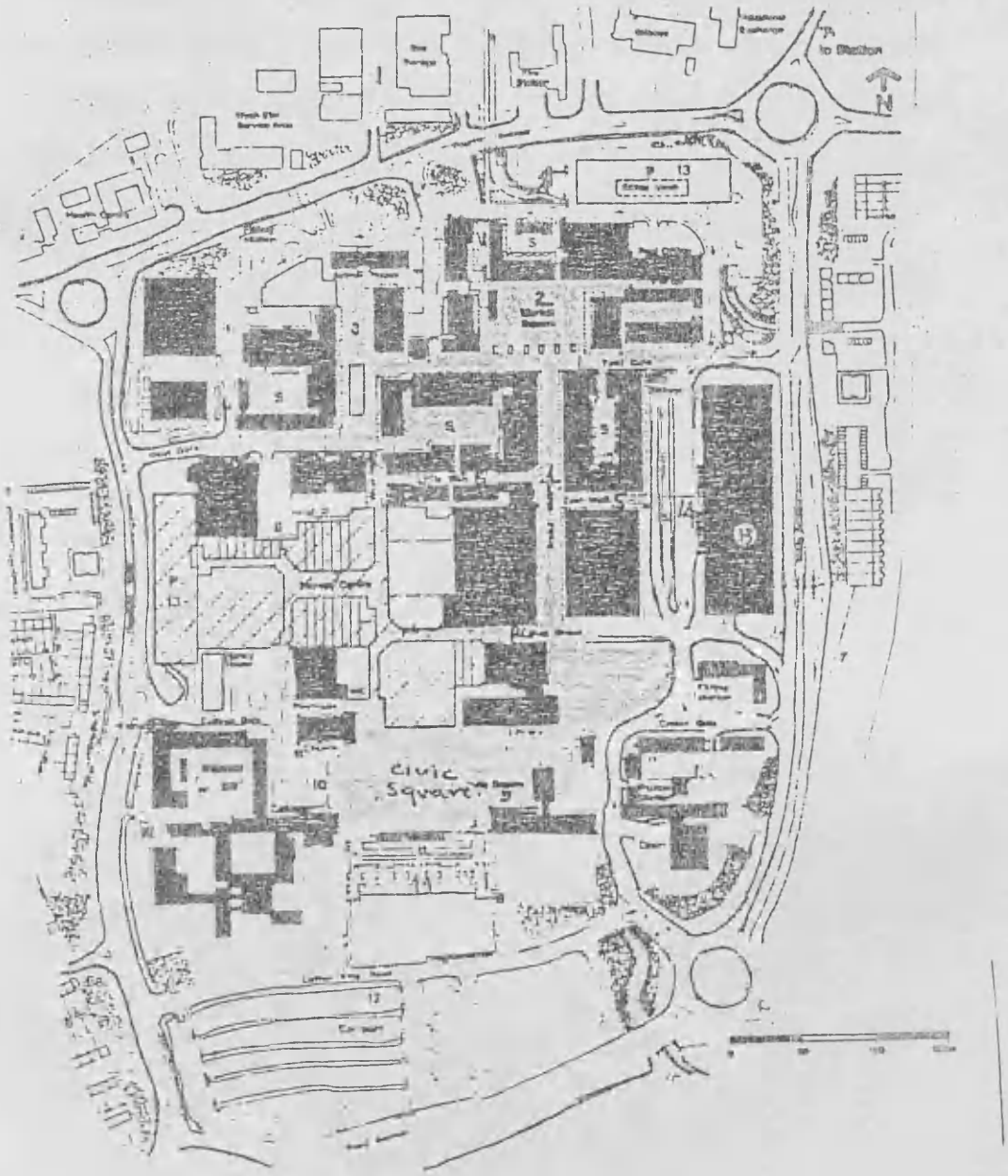


Figure 2.9 - Plan of Harlow Town Centre.

Spaciously planned the town centre's design derives from traditional pattern of old settlement centres. It consists of a market square surrounded by shops being on two levels, a civic square with a town hall, church, library and educational building.

Shopping malls are the link between the two squares. The new element brought in the design of Harlow centre was the pedestrianisation of the whole central core with service roads and car parks at the periphery isolating it from the residential area. With the exclusion of the traffic from the inner core the spaces are inter-related with a spatial continuity. More detailed analysis of Harlow will follow in Chapter 4.

The first generation of new towns was attacked from several directions:

a) The neighbourhood concept was seen as encouraging people to look inward the neighbourhood rather than visualising the town as a whole, to the detriment of civic cohesion.

b) Areas of landscaping articulating neighbourhoods and the low density limited urbanity as buildings were too little concentrated to give any coherent architectural effect.

c) The multiplication of sub-centres sapped the vitality of the town centre.

d) The rise of car ownership increased the demand of space and garages (8).

Taking into account such criticism, the second generation of new towns in the sixties tried to foster urbanity with compactness and higher densities by reflecting the neighbourhood principle in an attempt to create a unified town around a single centre of dominant architectural form in the composition. The idea of sub-centres was rejected.

2.2 Cumbernauld (Second Generation)

Cumbernauld is one of the five Scottish new towns and was planned and designed in response to the criticism of the first generation of new towns.

The site was designated on 9 December 1955 in an area of 4,450 acres (1,680 ha)(9). It is about forty miles (23 km) north-east of Glasgow (figure 2.10).

There were two villages on the site. Cumbernauld with a population of 1,300 and Condorrat with 1,200. The site lies on the south-east side of the main trunk road from Glasgow-Stirling the A80. The railway from Glasgow to Stirling passes through the site and traverses the Valley. Between the A80 and the valley there is a long hill on which the town was built rising to about 480 feet (144 m) and about 220 feet (66 m) above the road (figure 2.11). The reason for the choice of a hilly site is believed to be an inspiration from Italian hill towns of the south where the weather permitted it. However Cumbernauld's site is exposed to almost permanent strong westerly winds.

I. Hugh Wilson was appointed to prepare the master plan for Cumbernauld. This was published in 1956. The plan was originally designed for a maximum population of 50,000 which was extended to 70,000 (10).

Tackling the low density and the competition of the sub-centres to the town centre, witnessed in the first generation of new towns, the concept of Cumbernauld was to build a compact town clustered around a single centre (figure 2.12).

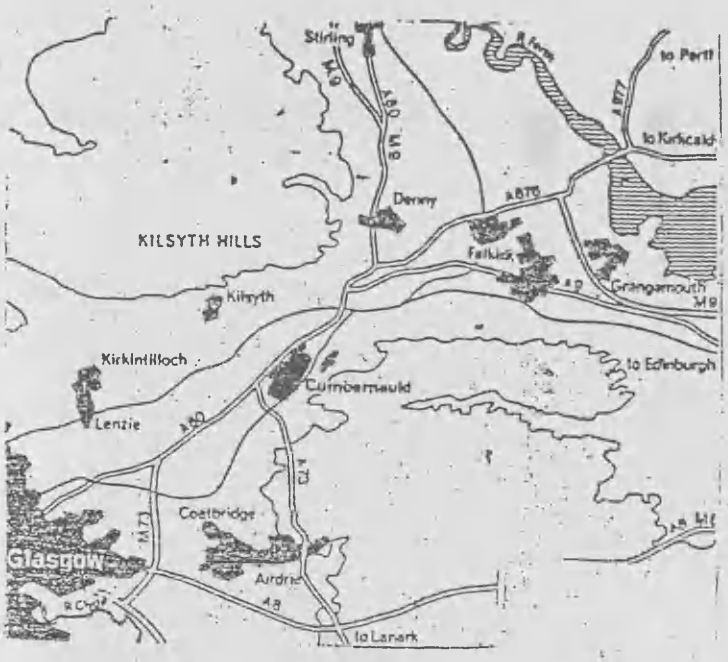


Figure 2.10 - Location of Cumbernauld.

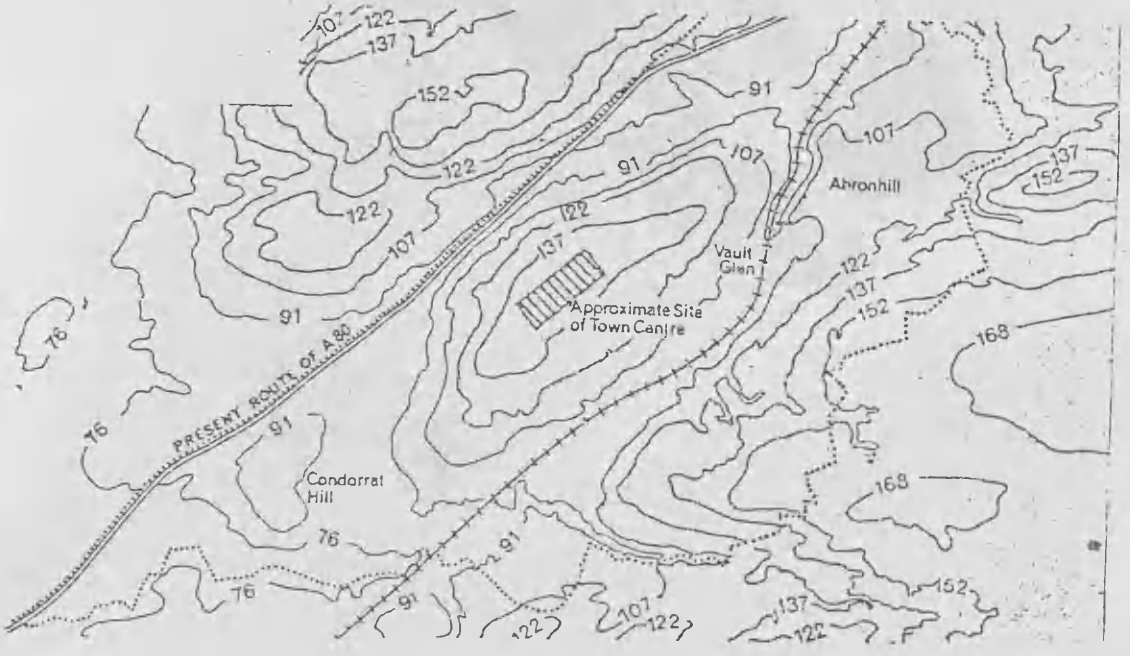


Figure 2.11 - Cumbernauld: Topography of the site.

Town Centre

Residential Area

Industry

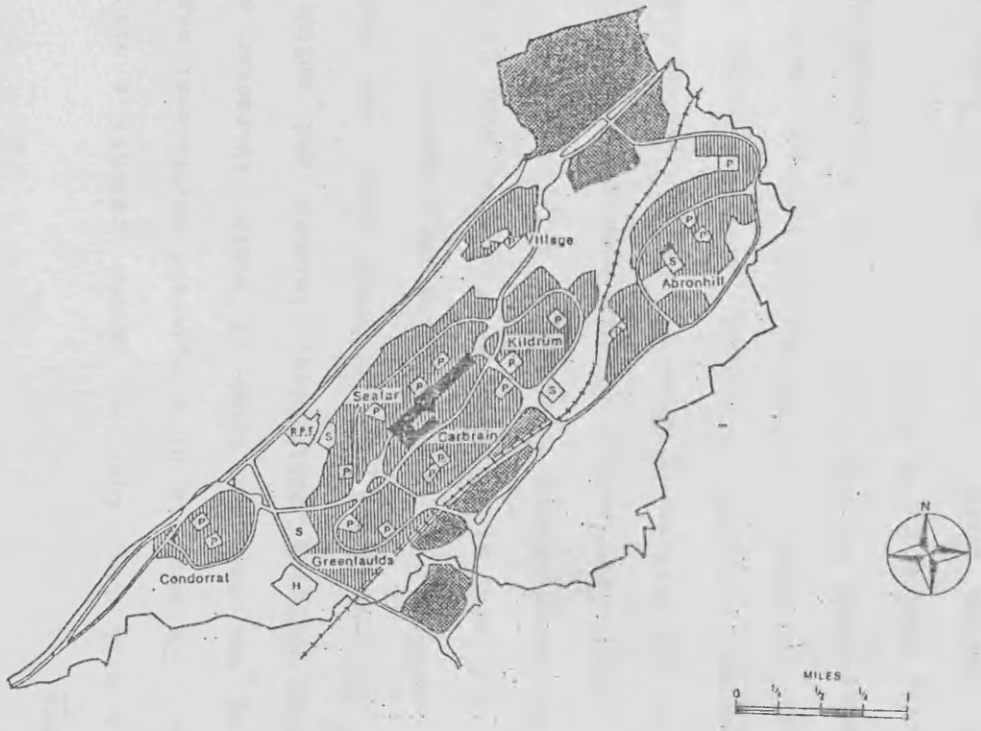


Fig. 2.12 - Plan of Cumbernauld.

The drop of neighbourhoods concept for a single unified one meant giving people a sense of community, a feeling of belonging to the whole town rather than to part of it. However, as parts of the town were built gradually and names were allocated to them people tended to identify themselves with them which leads to the weakness of the original expectation of a single neighbourhood.

Compactness was a keyword in designing Cumbernauld by providing high densities to give the town an urban character.

2.2.1 The Town Centre

Perched on a hill top, the town centre presents a visual focus to the town. It consists of a concrete multi-level mega-structure dominating the town in terms of scale, character and form. It provides shopping facilities, leisure and cultural activities, civic offices, etc. all combined under one roof.

The design consists of dual carriageway surmounted by pedestrian decks laid out as squares and terraces with lifts, escalators, ramps and stairs between them (figure 2.13).

Cumbernuald's great contribution was the complete segregation of full motorisation and pedestrian network. Pedestrians approach the centre by footpath from the residential area and enter the centre by a series of ramps. Motorists leave their cars in parking areas situated under the structure and reach the pedestrian decks by lifts, stairs, escalators or ramps.

Unlike Harlow centre, which was planned on the basis of traditional pattern that involved open spaces, squares, narrow streets, Cumbernauld centre accommodates all the activities under one roof.

An urban design analysis of external and internal spaces of Cumbernauld centre is the subject of Chapter 4.

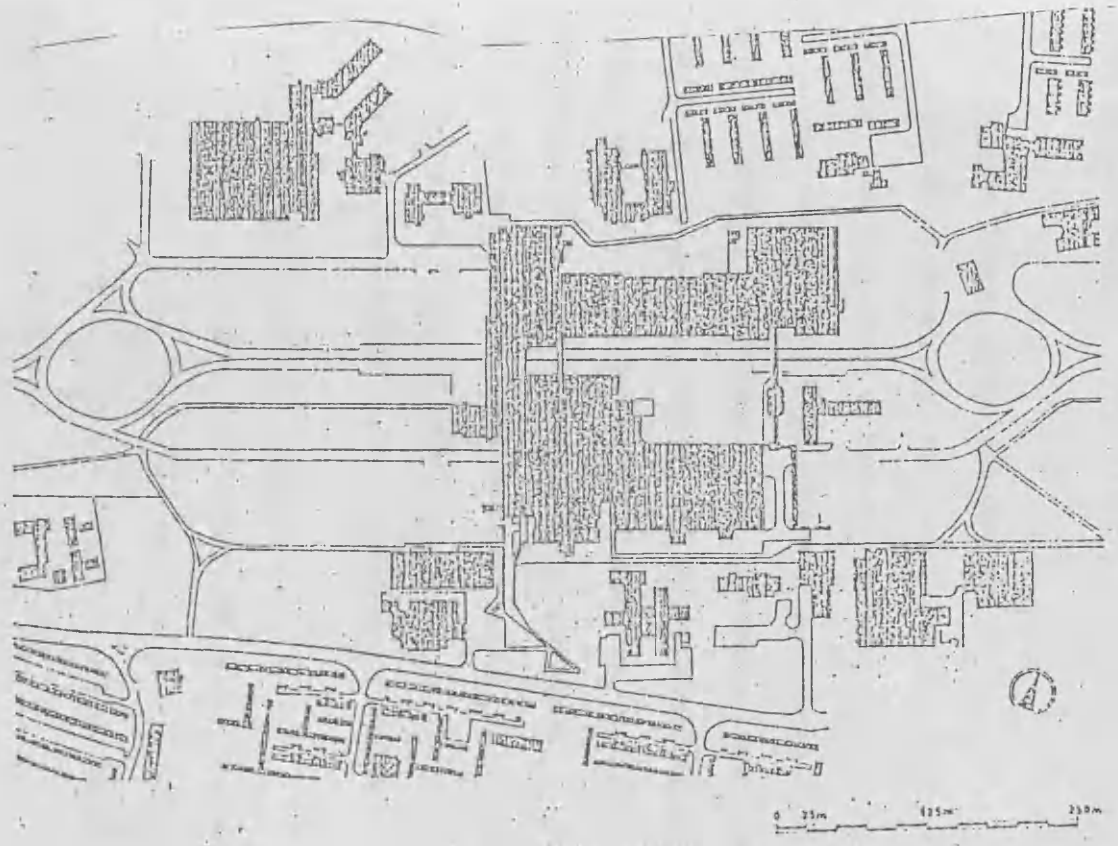


Fig. 2.13 - Plan of Cumbernauld Centre.

A criticism of Cumbernauld, as a model for future new towns, was that it depended on a complex multi-level centre which would be difficult to alter or extend should the town expand.

The rise of car ownership and the prediction for the turn of the century where every household will have one or two cars led to a new thought in terms of road systems that would be capable of carrying this predicted heavy traffic without congestion, even at peak hours.

2.3 Milton Keynes (Third Generation)

Milton Keynes was the new town, or as it's called, the new city, to be planned in response to criticism.

In contrast to the previous new towns, which had to do with overspill resulting from clearance and rebuilding, the new city of Milton Keynes had a different goal to deal with, which consisted of attracting people to an attractive city by providing for them better living standards. Objectives were set up for the design of Milton Keynes (12), among them:

1) Opportunity and freedom of choice.

2) Easy movement and access, good communications.

Opportunity and Freedom of Choice

Both concepts of single centre and self-contained neighbourhood were rejected. The plan had to provide for people to exercise choice between alternative schools, shops, work location and services of every kind.

Easy Movement and Access, Good Communication

To fulfill the concept of freedom of choice, there must be a freedom of movement, by putting a higher value on quick, free, direct access from any part of the town to any other.

Milton Keynes was designated on 23 January 1967 in an area of 21,900 acres (8,870 ha). It is about 45 miles (72 km) north from London, 15 miles (24 km) from Bedford which counts a population of 65,000 and 18 miles north-west of Lutton with a population of 133,000 (figure 2.14).

The place was designed for a population of 150,000 and is expected to rise to a maximum of 250,000 by the end of the century (13).

The site is an irregular square, with an existing population of about 40,000 mainly in Blechley in the south with a population of 25,000, Wolverton and Bradwell in the north with 15,000. The remaining few hundreds in the villages of Stony Stratford and Milton Keynes, which gave the new city its name (figure 2.15).

The topography of the site presents 200 feet (60 m) difference between its highest and lowest point (figure 2.15). The main railway line from Euston to the north-west runs through the middle of the site with stations at Wolverton and Blechley.

The plan was prepared by the consultants Llewelyn, Davies, Weeks, Forester, Walker and Bor. It was approved and accepted in May 1971.

The plan consists of a grid of primary roads of approximately one kilometre squares (figure 2.16). The grid road pattern is a consequence of the decision to plan for a future affluence with a high level of car use and promoting a complete segregation of pedestrian network and traffic system.

Special cycle ways are provided and a system of over and under-passes prevents pedestrians from crossing roads that do not have urban speed limits.

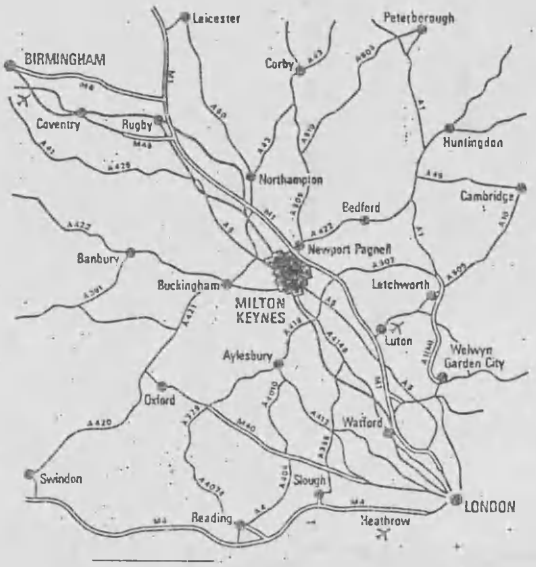


Fig. 2.14 - Location of Milton Keynes

Below 200'

300-400'

Above 400'

Fig. 2.15 - Milton Keynes: Topography of the site.

Industrial areas

City centre

Activity centres

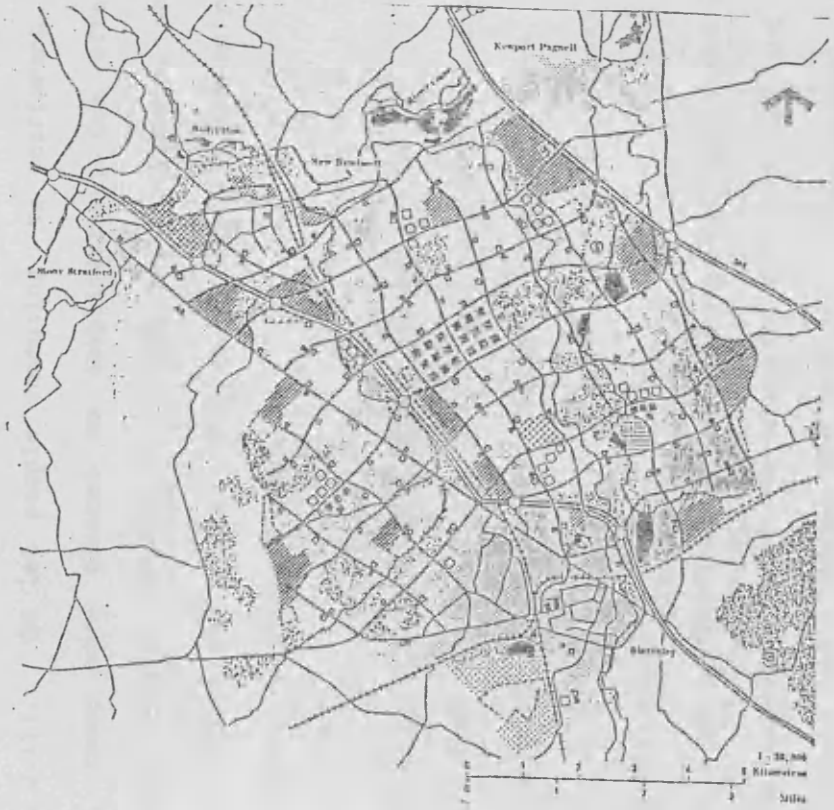


Fig. 2.16 - Plan of Milton Keynes.

Within the grid all the junctions are roundabout, except in the city centre where traffic lights are used. The squares defined by the grid pattern are of about 250 to 300 acres (100-180 ha) each for about 5,000 people.

2.3.1 Town Centre and Nodes of Activity Centres

Following the principle of giving people freedom of choice, the location of activity centres, instead of being placed in the centre of a grid square to serve a define population of the square, these were placed around the edges of groupings of communication nodes, where a concentration of residential facilities could be found such as major bus stops, shops, etc. (figure 2.17). To let people commuting to different activity centres, these were planned as complimentary. One offers just a group of shops, another a church and a library, another a community centre and so on. This allows contact between residents from different residential areas.

2.3.2 The City Centre (Central Milton Keynes)

The city centre is geographically situated in the centre of the site. It provides regional shopping centre, leisure and cultural facilities, civic offices, inter-city railway station and firms offices.

The site occupies three and one quarter city grid squares. The whole eastern square is reserved for parkland and housing so the centre will occupy two and a quarter squares, a total of about 500 acres (200 ha).

The plan (figure 2.18) shows how each grid square is divided into eight blocks of land and these are further divided into four blocklets each of one hectare.

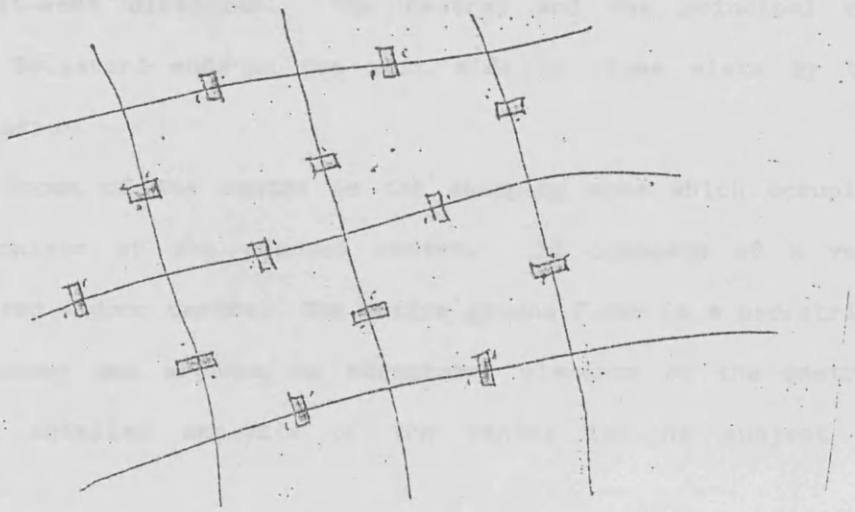


Figure 2.17 – Milton Keynes: Activity Centres Location

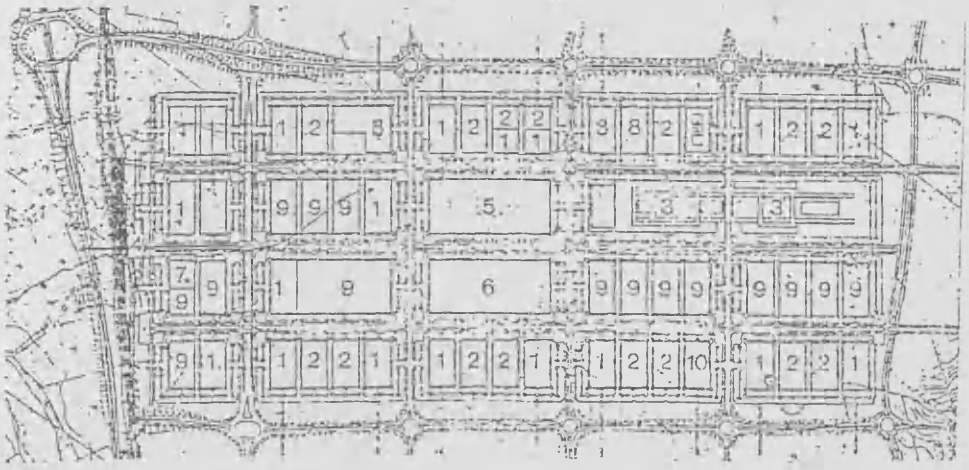


Figure 2.18 - Plan of Milton Keynes Central area.

Three main boulevards lined with trees traverse the area in an east-west direction. The central and the principal one Midsummer Boulevard ends on the west side in close vista by the Railway Station.

The focus of the centre is the shopping area which occupies eight blocklets of the planned centre. It consists of a very large covered indoor centre. The entire ground floor is a pedestrian area including two arcades as structural elements of the cnetre.

More detailed analysis of the centre is the subject of Chapter 4.

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CHAPTER 3

Town Centres, Performances and Townscape

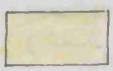
Note on Scale

In this Chapter, where the three town centres are analysed and where many buildings and spaces of similar type, a comparative basis for that examination is important. For this reason plans have been redrawn throughout to common scale as follows:.

- General plan of the Centre - 1:3,000
- Detail plan - 1:2,000

KEYS

_ BUILT



_ MALLS AND SQUARES

CHAPTER 3 CONTEXT

3.1 Town Centres, Performances and Townscape

3.1.1 Historical Dimension

"We are apt to forget that one of the foremost functions of a town centre is to give pleasure to those who live in towns. Among the pleasure of the eye, we should count the contrast between stimulating movement and scheduled calm, between large and small, formal and informal enclosure, between the free form of trees and the ordered geometry of buildings, between sun and shade, broad and narrow, high and low, between the ordinary and the theatrical." Professor R. Gardner Medwin (1956) (1).

The quality of life is affected by a great many things but there is little doubt that for many people the city or town centre is one of them. With more leisure enforced or desired centres ought to contribute even more to people's ordinary quality of life (2).

The development of the earliest and still surviving centres was generally an organic development where often the ground floor of domestic buildings were gradually transformed into shops as towns developed.

They carried valuable components of great architectural and historical interest derived from a complex succession of events in history which gave towns person character and identity that differentiated them from one another.

"It was the cities that made the core, but they in turn made the city a city". J.L. Sert (3).

Cities were, and to some extent still are, the meeting place for more human relationship and discussion - they become more commercial than social places. Shopping has become the price human activity in which almost every individual in society takes part inevitably almost daily.

These changes in attitude towards centres are due to social and technological changes that affected towns and countries during this century.

These changes had a tremendous impact on cities functional and visual aspect. Before analysing the three new town centres of Harlow, Cumbernauld and Milton Keynes we have to define the functional and visual dimensions of any town centre. It was the publication of two books at around the same time in the early nineteen sixties that set the scene for recent attitudes in town design.

Kevin Lynch in his book "The Image of the City" (4) found that people seemed to perceive the urban environment in terms of landmarks, districts and edges in addition to paths and nodes.

Gordon Cullen however considered in depth the visual impact which a city has on those who live in it or visit it in his book "The Concise Townscape" (5).

The purpose of the following analysis if to apply these two theories in the new town centres and to see to what extent they fulfill them.

3.1.2 Functional and Visual Dimension

The functional factor is to respond to human needs. The centre should provide a mixture of functions such as work, trade, shopping, leisure, administration and transport.

To create a prominant environment with such a mixture of functions within the same area these functions should be projected to urban form. Their evolving design should reflect their functions (6). The centre as a physical framework for human intercourses must be flexible enough to accommodate changing

human needs and varying activities and yet always be sufficiently articulate in itself and its approaches to remain part of the city's spatial continuity (7).

Visual Dimension

Any central symbol gains in power by being set among other functions which are separated from it yet look towards it.

The centre as a focus of the town performes its functions unless it acts as a symbol in relation to its surroundings. For this performance the centre needs some powerful elements that punctuate its skyline in a meaningful way reflecting the function of its vocations (administrative, religious or commercial).

The skyline is usually the prime noticeable feature that gives the first image and the first impression when seen from a distance (8). Many towns and cities famed for their skylines can be identified by silhoutte alone. Paris for instance is identifiable by its Eiffel Tower.

Any centre by its scale and character is visible in its town's skyline.

This change of scale and character leads to boundaries or edges between the central and the remainder of the town edges (9), could be illustrated smoothly by a break in visual continuity with a change in scale or character but still giving access to the central area. It could be therefore a strong boundary which closes the centre off from the rest of the town and this could be the case of motorways, ring roads or railway lines which make accessibility more difficult.

Accessibility is illustrated by entry points which should be identifiable spaces. These accesses could be through gates in their proper sense. They could be just a convergence of important routes such as a crossroads or a roundabout or corridors passing through the centre.

For pedestrians, nodes of activities, places, bus stations or railway stations are sometimes identifiable entry points.

Whatever these entry points are, they present a mental image of an area to road users and pedestrian (10).

Spatial Organisation

It is the key factor in the design of centres, it consists of the inter-relation between spaces and their relationship with the building masses. A coherent spatial organisation is when there is a balance between the building masses and open spaces in conformity with the human capacity to experience and sense harmonious space and scale (11).

The Scale is a fundamental aspect in human consciousness since it has a psychological effect on people. What we call human scale is when all the elements of the composition are proportional to each other. It is usually determined by the height of buildings and the width of streets and open spaces.

In relating outdoor space to buildings there is a sense of balance when a space has a width equal to the height of the building or twice the building height. Once the space is larger than four times the height of the building, interaction between building and space dissipates (12).

People perceive centres and experience them through movement in spaces such as place, street etc. and judge them on what they offer

them in terms of excitement (visual, functional and social). The visual excitement is mainly provoked by the quality of the street design that shapes attitude to the streetscape.

The variety in frontage design, sometimes within the same character, the hierarchy of openings, the emphasis and the rhythmic spatial relationship make the eye behold a varied succession of shapes and designs avoiding the monotony and the boredom.

A street can offer, as well as visual enjoyment, surprises and variety of unexpected impressions by providing spaces and objects arranged to produce a succession of visual change. This may create motion or mood or give direction. The factors that create motion or mood are dynamically expressed by:

a) Visual anticipation which occurs when future views are hinted (13), as street which bends for instance, suggests what is around the corner without exposing the real image. Shadows, smells, emission of light or noise may reinforce this sensation.

b) Visual excitement generated by urban furnitures such as clock tower, sculptures, columns which perform as focal points or landmarks (14). This aids in the identification of points of choice and direction.

c) Visual terminations are the elements that close vistas (15), they generally occur at T-junctions and offer visual anticipation in lateral directions. They are usually buildings as they are the most important vertical elements in forming spaces.

Visual terminations also act as points of reference or landmarks and could give a sense of enclosure to a space where one can feel a secure environment. "The invention of enclosed

space is a sort of magic - humanising a small part of the infinite field". Walter Gropus (CIAM) (16).

These basic elements of townscape such as excitement, anticipations, punctuations, enclosure, balance between open spaces and building masses in conformity with the human scale are necessary to make a centre structurally legible, significant and exciting. Other elements such as landscaping, urban and street furniture could accentuate the image of the centre.

Before analysing the three new town centres, Harlow, Cumbernauld and Milton keynes, these are the major components previously defined of what basically a centre performs with

- firstly from a distance: with its skyline, edge, gates, scale and spacial organisation.
- from inside: with the street scape which consists of visual anticipation, visual termination, visual excitment and enclosure. Street character which consists of openings, rhythm, material, emphasis.

3.2 Analysis of the Three Town Centres: Harlow, Cumbernauld and Milton Keynes

3.2.1 Method of Visual Analysis

1) An introduction to the town centre to see the general aims behind the layout and the design.
2) For the urban analysis the method is based on the components previously outlined through a progression of scenes as one approaches the centre and moves along through its spaces.

a) From a distance

The progressive images that confront a road user or a pedestrian moving towards the centre as previously indicated are the skyline, the scale and the edges, when closer one needs to find the way to enter the centre by specific points or gates.

b) Within the centre

The visual analysis of the spaces within the centre is based on a promenade through which they are experienced progressively as one enters the centre and tries to reach the main spaces (squares, main shopping street, etc.)

From this promenade an attempt will be made to find out whether our three centres respond to what was previously defined as elements that a centre should perform with.

3) A summary relating to what the town centre presents as quality and deficiencies leading to some recommendations.

3.2.2 Harlow Town Centre

The town centre was designed to be the focus of the town. It contains the town's most important civic spaces and buildings.

The principal aim behind the design was to plan a large area within which is concentrated a small limited area for intensive activities - the town centre - surrounded by a ring road and car parks at the edges (17).

All buildings of activities requiring large open sites such as hospitals, sport area, railway station are within the centre but rejected beyond the ring road (see figure 3.1 whole plan of the central area).

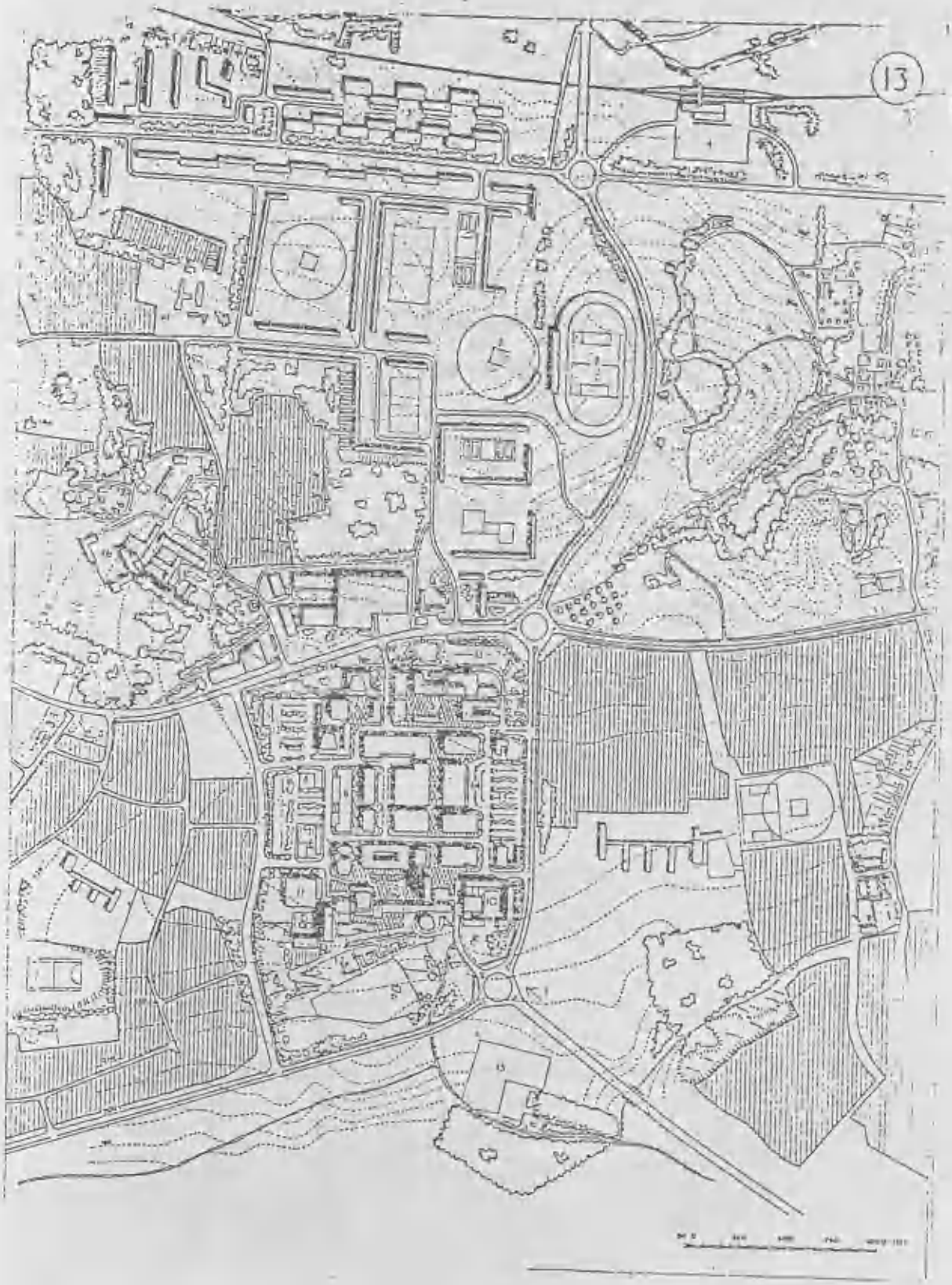


Fig. 3.1 - Plan of Harlow Central Area.

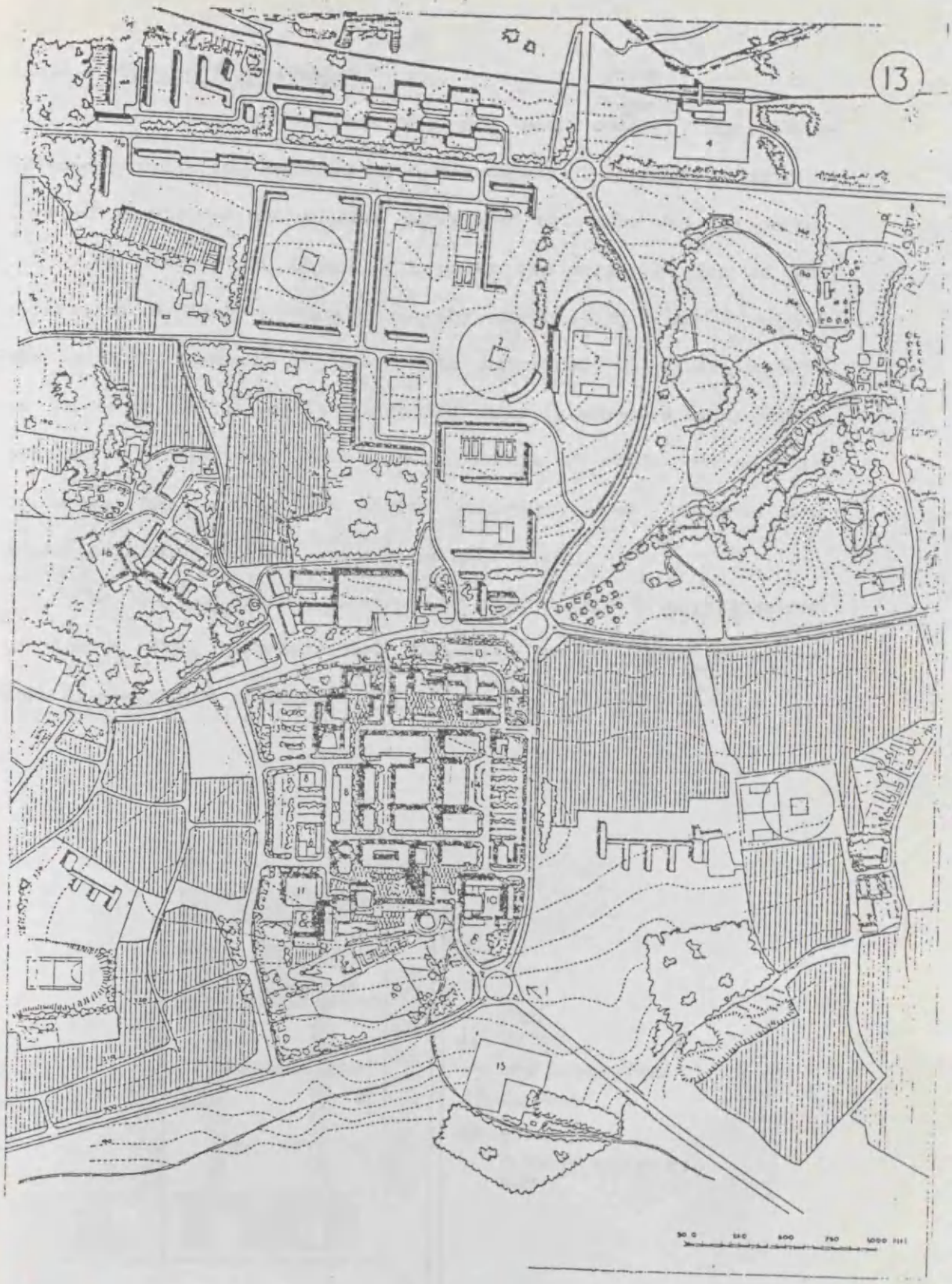


Fig. 3.1 - Plan of Harlow Central Area.

3.2.2.1 Spatial Organisation

Harlow town centre was designed with complet segregation between vehicles and pedestrians. It consists of an inner pedestrian core of precincts and squares surrounded by roads and car parks.

The diagram in figure 3.2 shows the original plan of the centre as a long rectangle running north-south with a market and adjacent square on the north connected to civic squares on the south by two parallel shopping malls intersected by secondary east-west precincts. With the exclusion of roads between the buildings the spaces are linked together, each designed for a particular purpose and with its own character.

The link between these series of spaces lead to a progression of scenes with contrasts and surprises as one walks from one part of the centre to another.

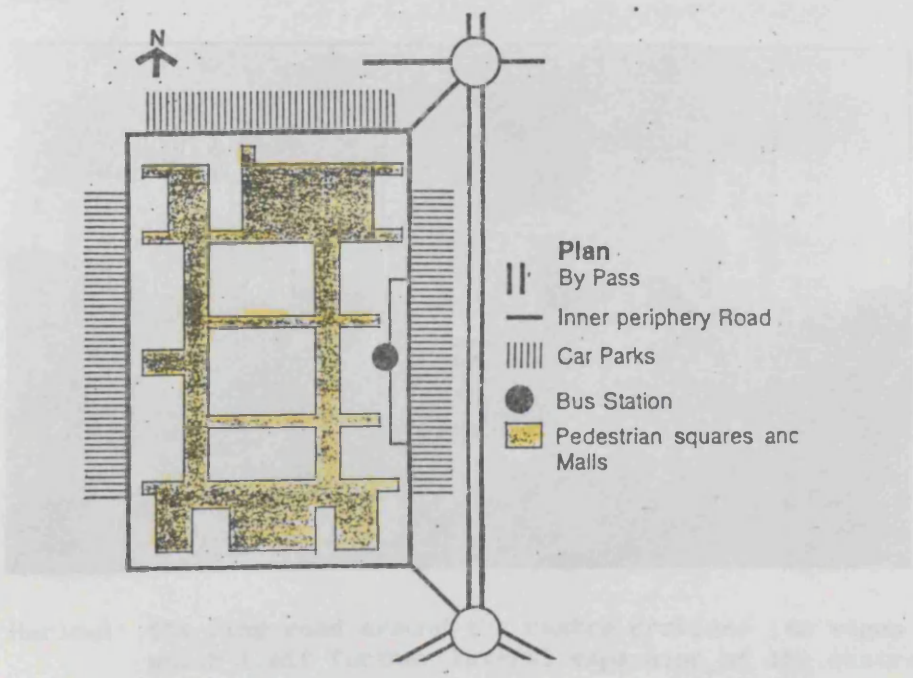
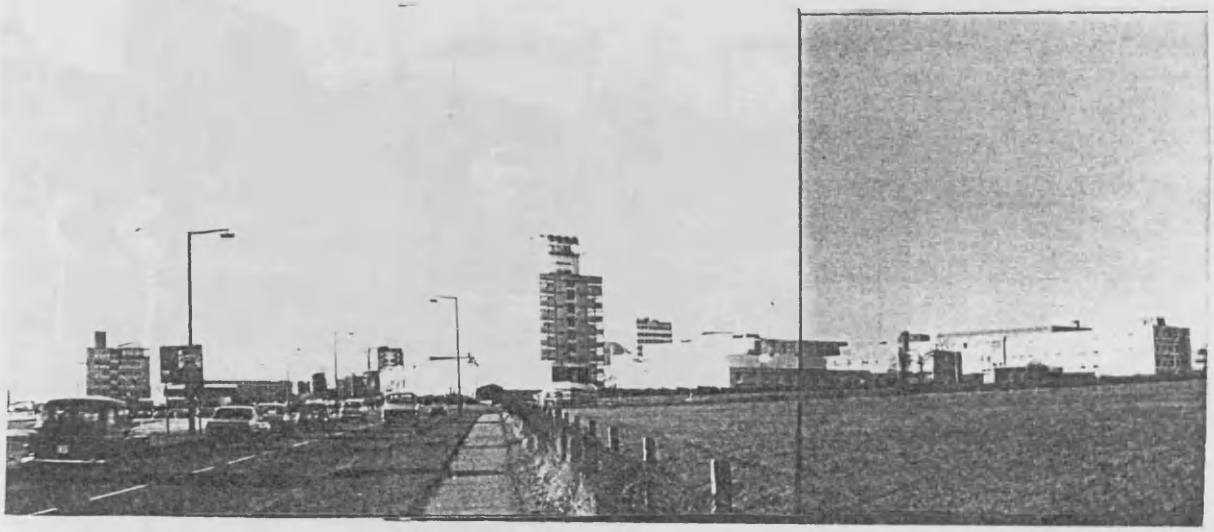


Fig. 3.2 - Diagram of the original plan of the town centre.

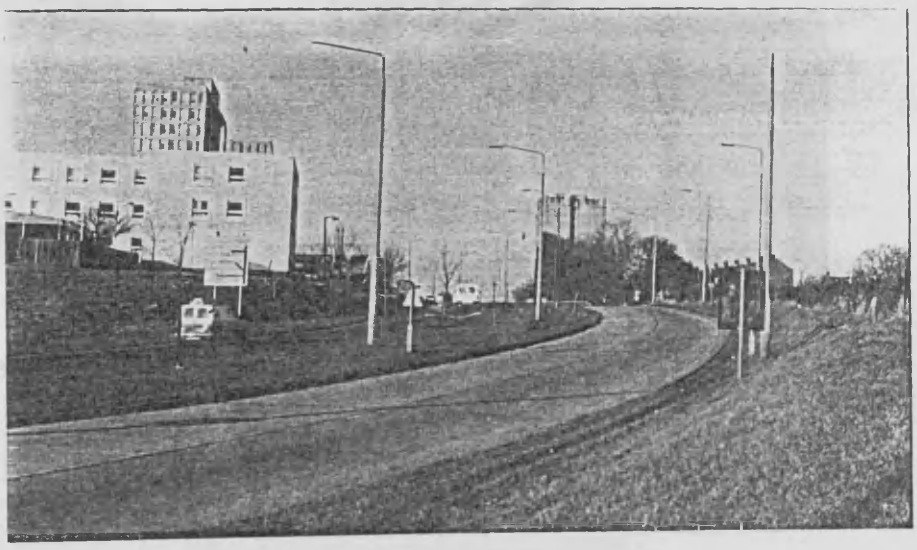
3.2.2.2 Viewing from a Distance

Skyline



Harlow: the town hall punctuates the skyline. It represents the visual focus of the town. There is no symbol in the design that expresses its function.

Edge

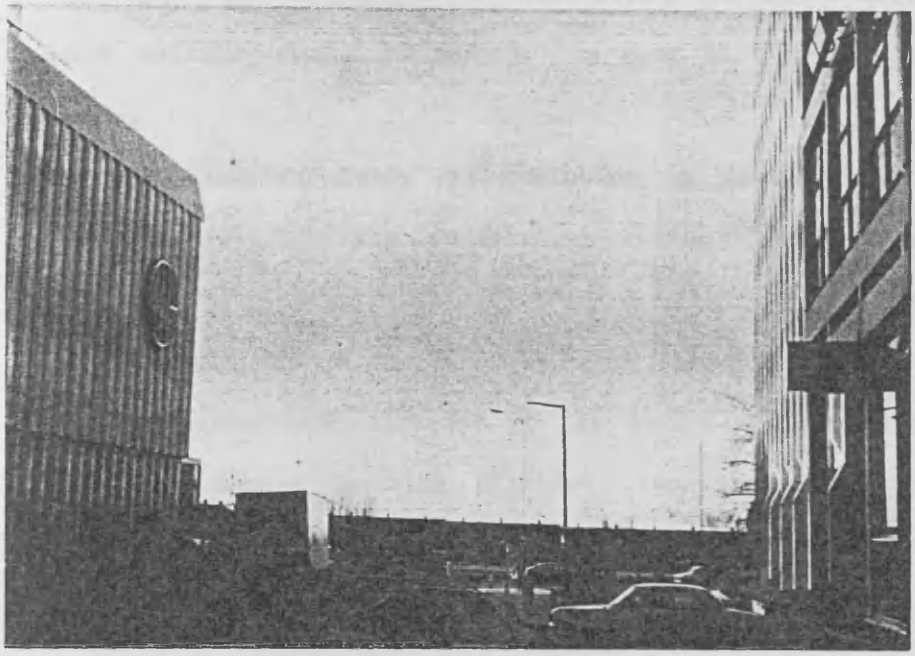


Harlow: the ring road around the centre provides its edges which limit further lateral expansion of the centre.

Harlow: Entrance to the centre from the roundabout leading to car parks. Characteristic mental image to a road user.

Harlow: Entrance leading to a multi-storey car park that ensures a density of development. A solution that could make an impact on the design of the centre.

Scale



Harlow: Looking from the centre towards the residential area. The view presents a tremendous contrast in terms of scale.

This is what makes the centre a dominant and powerful feature in the town.

3.2.2.3 Viewing From Inside

When approaching Harlow town centre one can realise that the whole building masse is turning its back to the road and looking inwards.

This effect leads to confusion on how to get into the centre, especially for pedestrians coming from the residential area or for visitors coming from the railway station situated down the hill outside the ring road (see figure 3.1).

The structural elements of the centre are the market square, the civic square and the principal shopping street broad walk.

These three spaces are the focus of the centre. The following visual analysis consists of experiencing the paths people use to reach these main places, to see what the centre offers to them as a visual architectural excitement and interest.

There are four major accesses to reach the market place, the most lively place of the centre (figure 3.3).

Access A - used by residents coming from the west residential area.

Access B and C - for those coming from the north residential area.

Access D - for people coming from the bus station and residents in the east part of the centre.

Access E - promenade inside the characteristic street.

Access F - the way to the civic square.

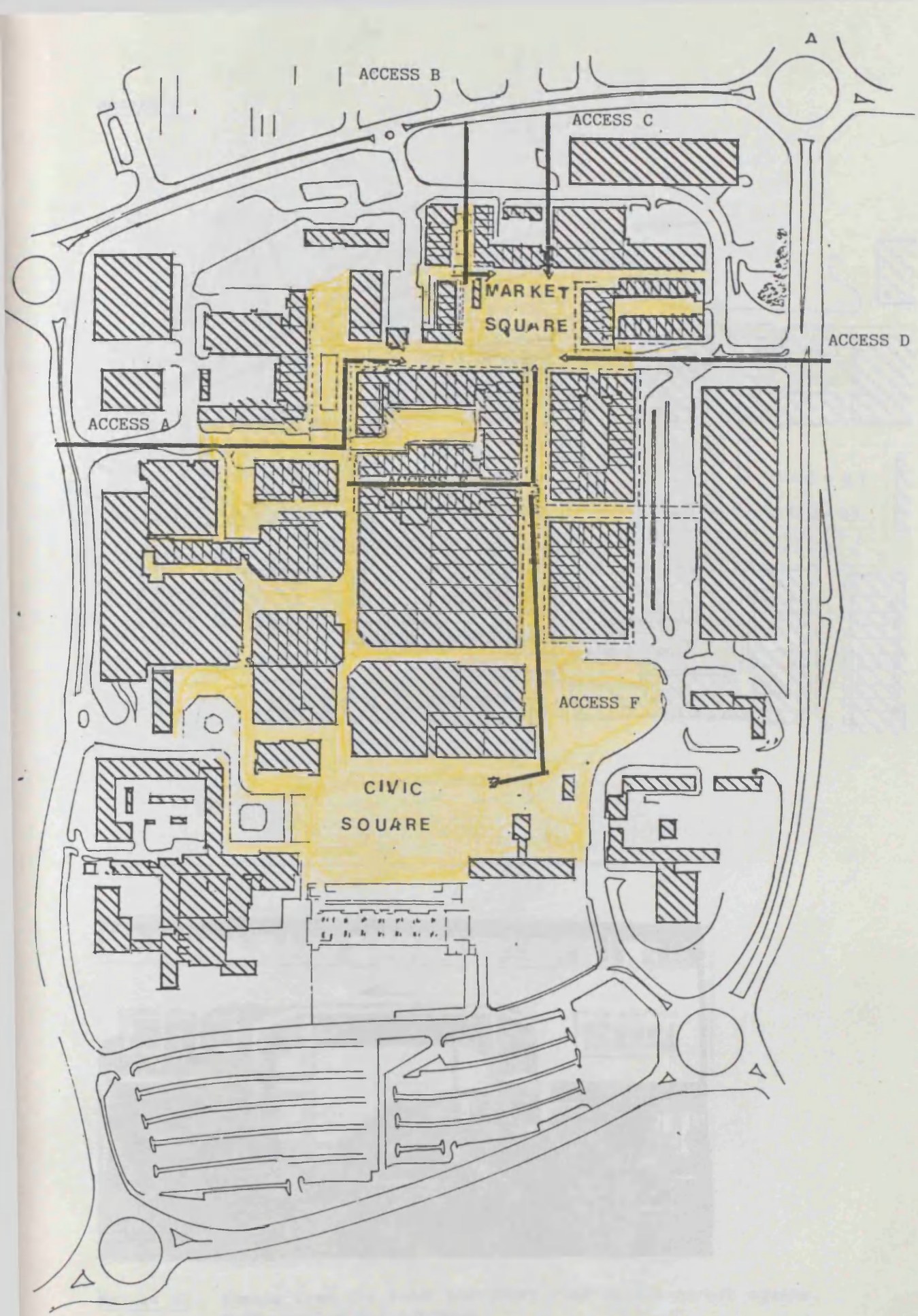
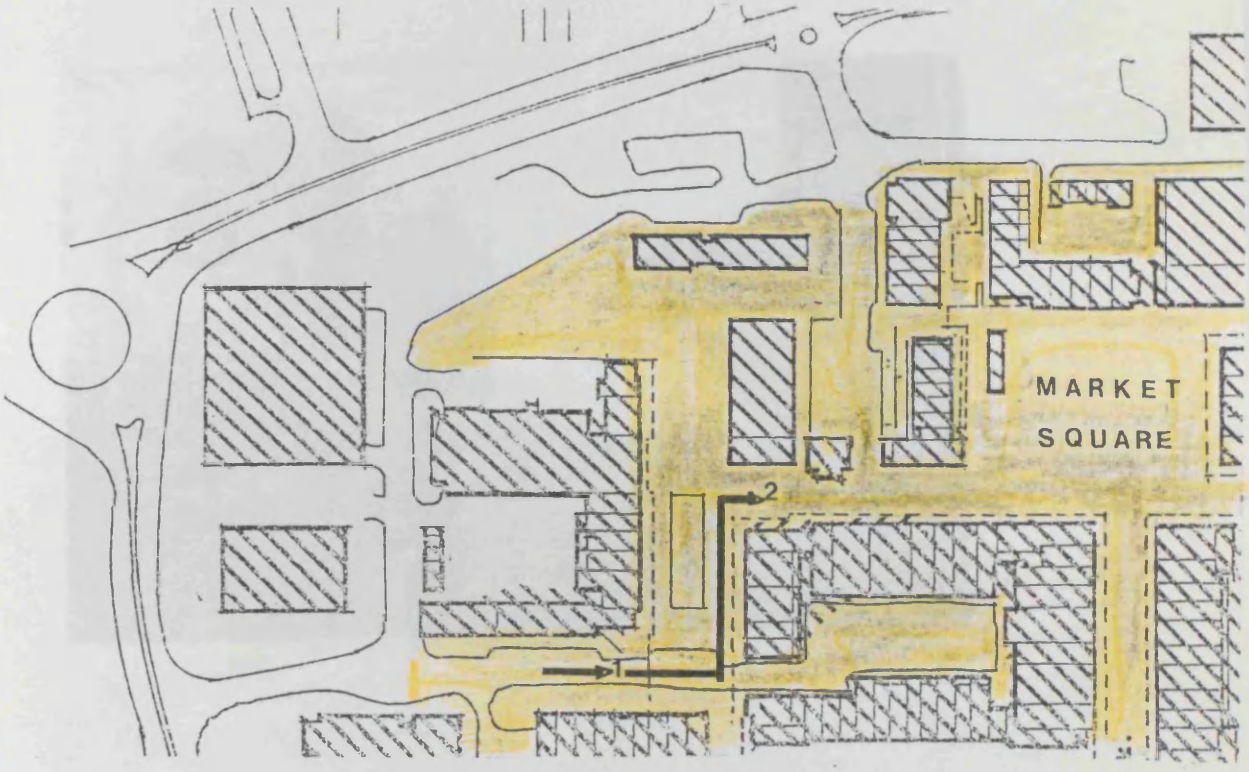
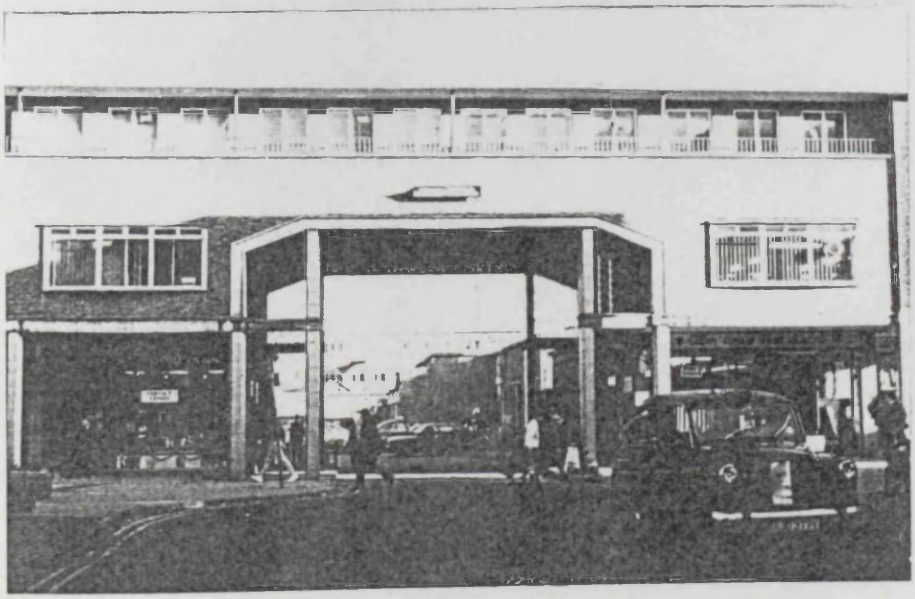


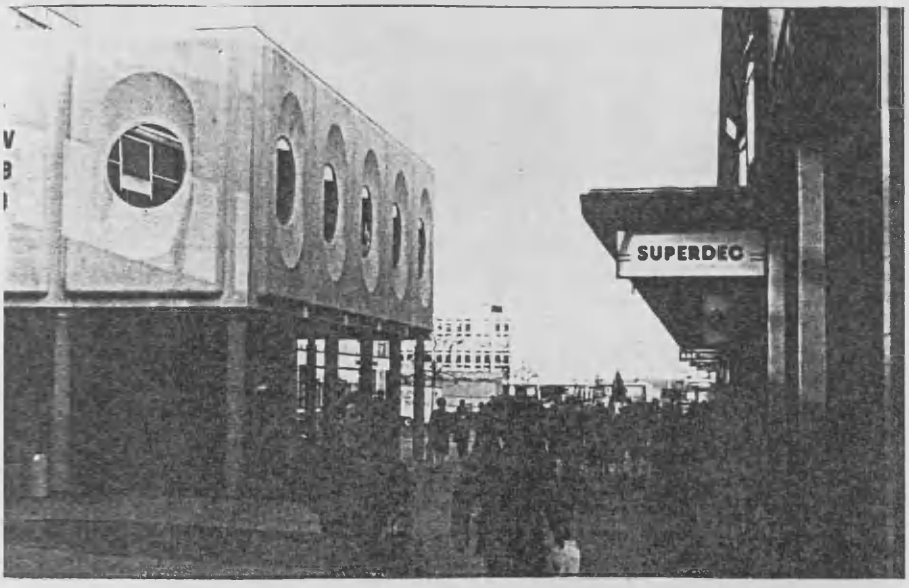
Figure 3.3 - Plan of Harlow Town Centre - Scale 1:3000

Access A



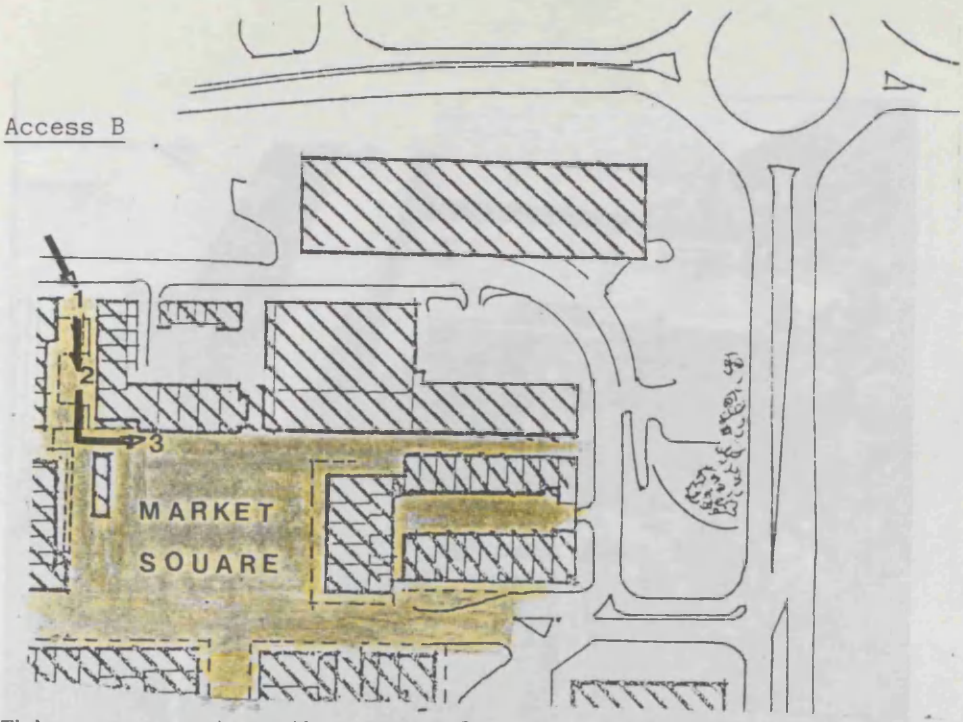


Harlow A1. Coming from the inner periphery road to the market square. Gate marking the entrance.



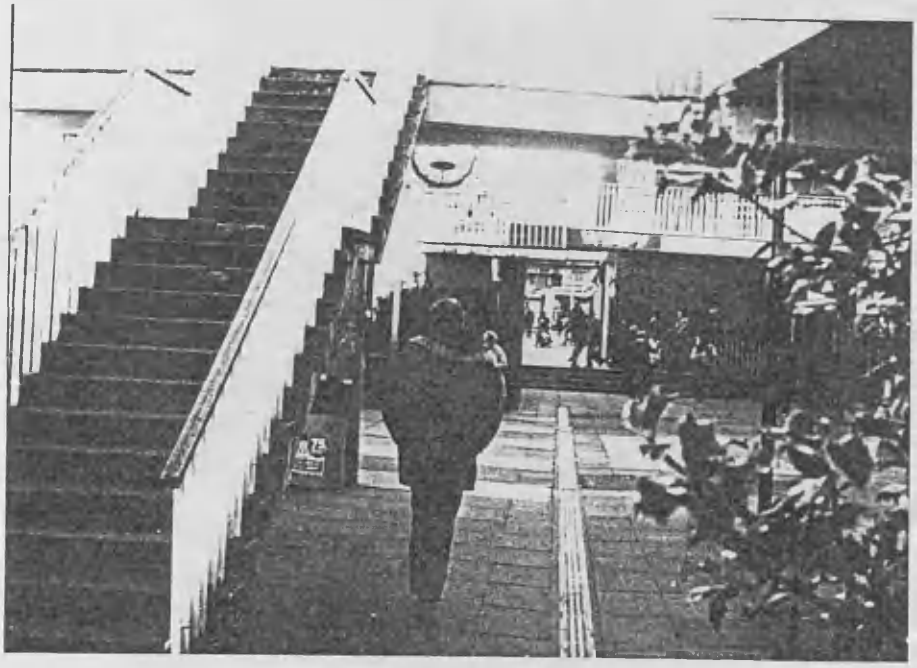
Harlow A2. A view along the south side of the market square. The colonnades emphasize the visual continuity to the square.

Access B



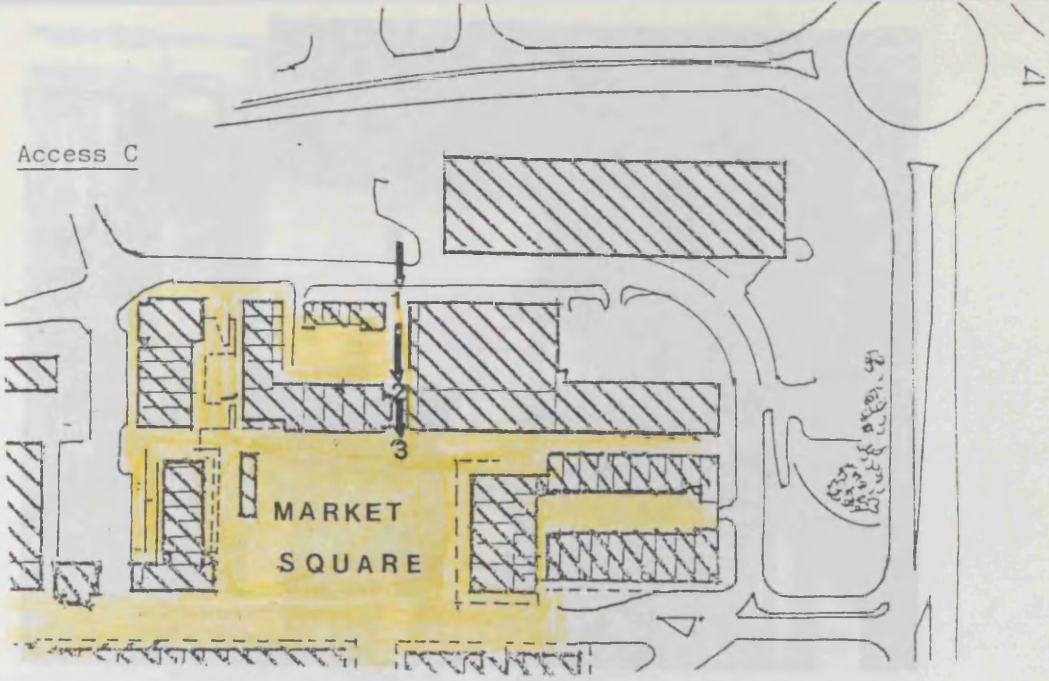
This access enters the square from the north.

Harlow B1. A view from the North Avenue, the market turning its back to the road and to this access.



Harlow B2. A three dimentional interest where stairs lead up to the high level galleries.

Harlow B3. At the point to enter the market place the open view towards the square does not anticipate the enclosed space of the market. An ommissing element might be needed to close the vista and orientate people laterally to the square



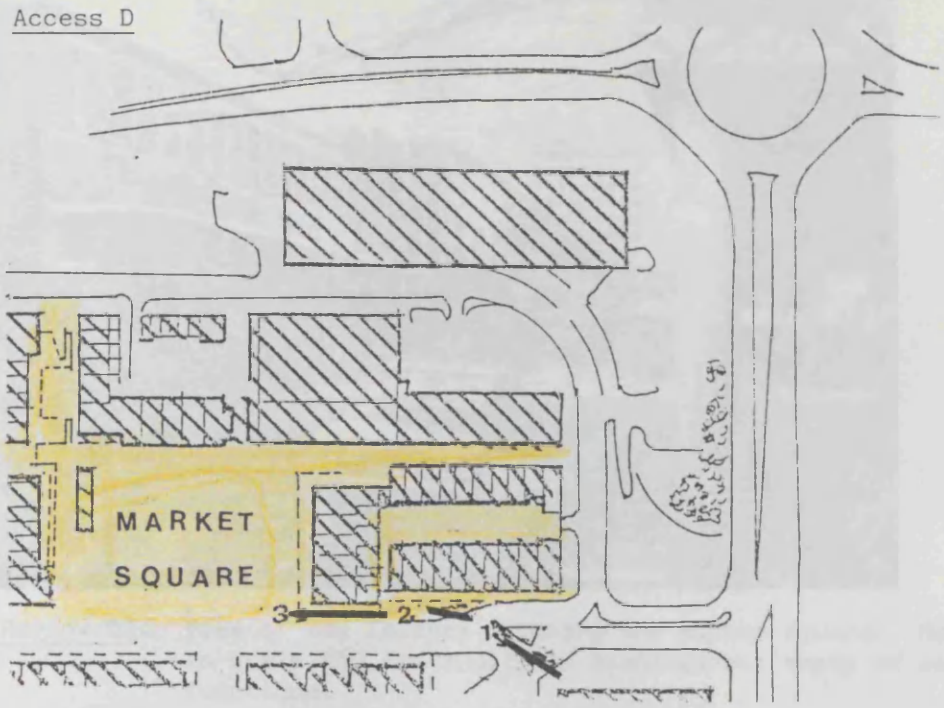
Pedestrian and cyclists coming to the market square by the main underpass below the North Avenue are directly delivered to this access.

Harlow C1. Entrance without any inviting element. Blocks above that enclose the market square empty of any symbolic meaning.

Usual anticipation suggested by contrast in the lighting.

Harlow C2. A covered entrance with shops at the corner. Visual termination by market's stalls offers lateral anticipation.

Harlow C3. The market square enclosed by buildings with continuity in frontage in terms of height and openings. There is a sense of balance between the height of buildings and the width of the square.

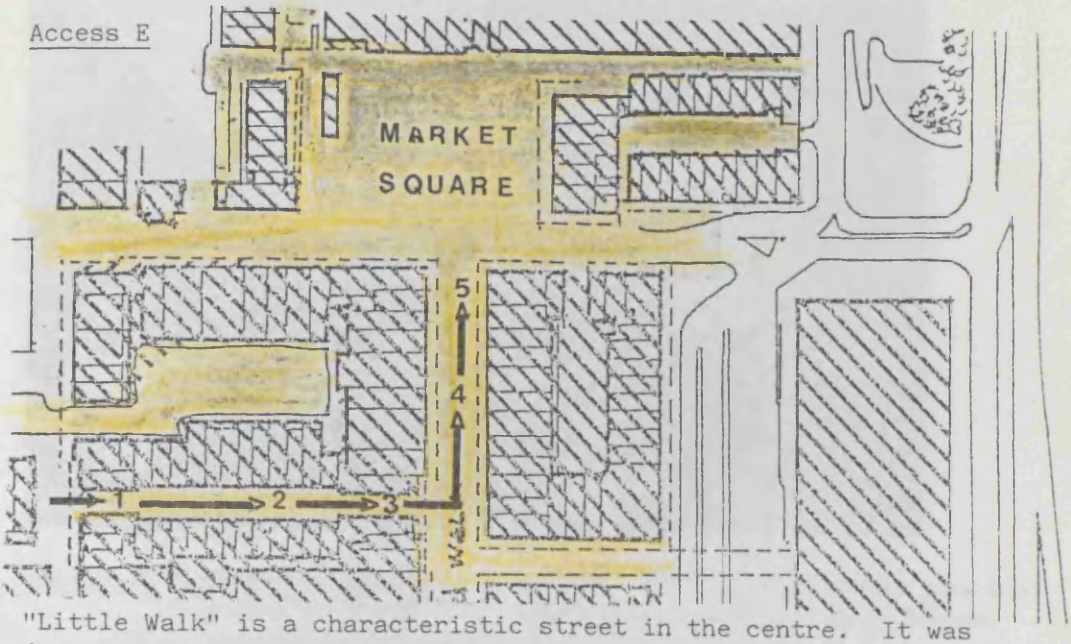


This is the entry point for pedestrians coming from the east part of the town, and especially used by people ocming from the bus station.

Harlow D1. Horizontal emphasis in the frontages give the impression to direct people to the market square. Almost all the buildings were designed with upper floor extending over parts of the pavement to shelter people from bad weather.

Harlow D2. View of the facades fronting the market square. Harmony in scale and continuity in openings but empty of expressive functions.

Harlow D3. The market from this angle gives the impression to the observer of a less enclosed space. This effect is due to the open view above the roof market.

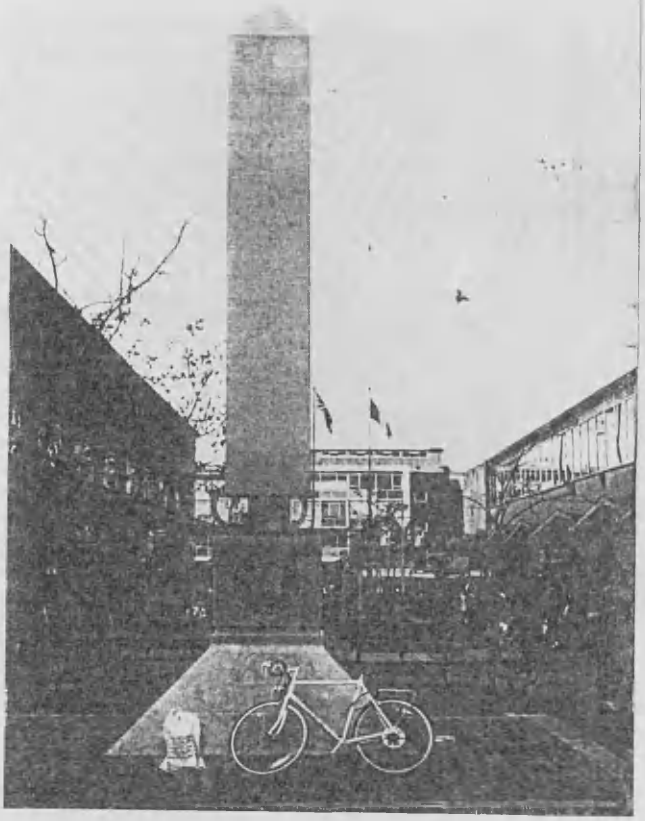


"Little Walk" is a characteristic street in the centre. It was designed for small shops with almost the same plot width.

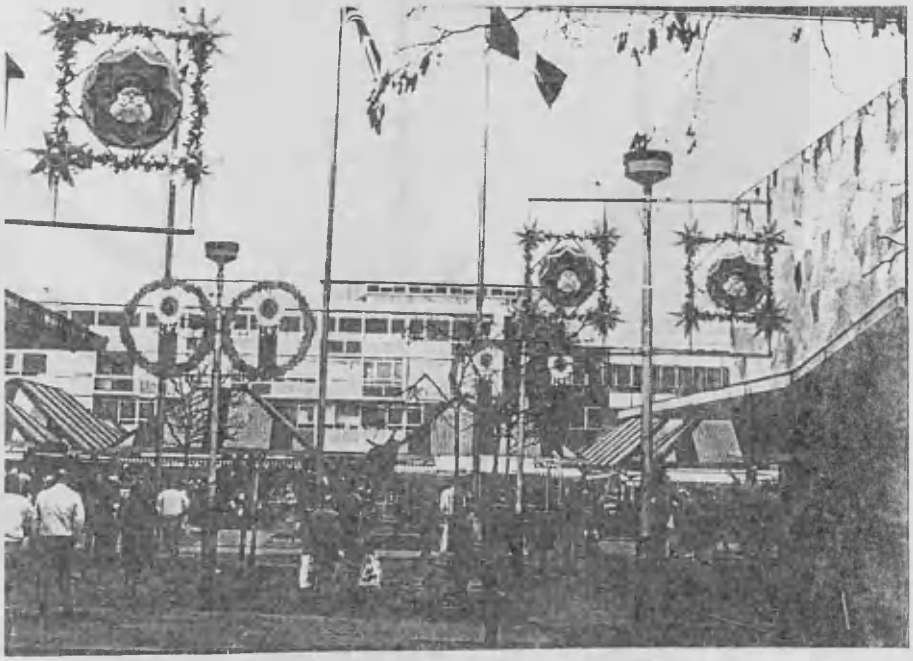
Harlow E1. Entrance to Little Walk is marked by a portico, which gives the feeling to enter a space rather than just passing through it.

Harlow E2. From the portico to an open space. Small shops use both sides of the street, reflecting no particular design, using the same material.

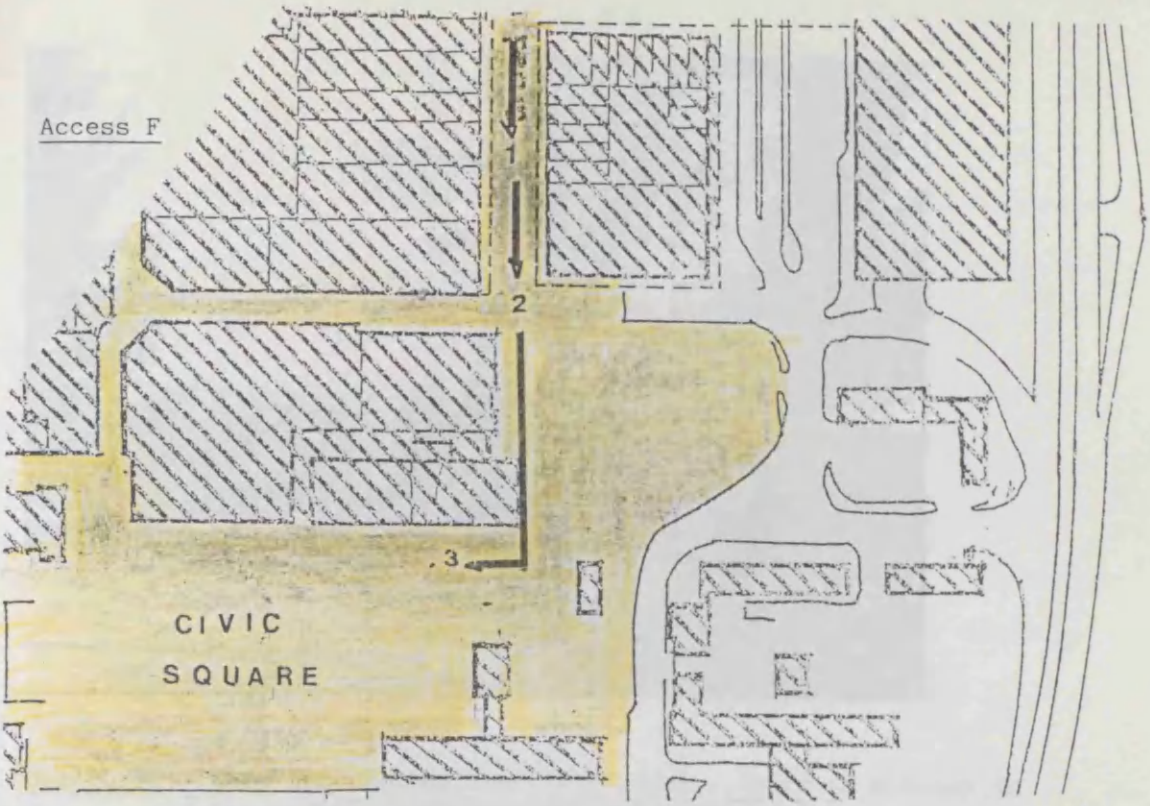
Harlow E3. The end of Little Walk marked by another portico. Although the ends are not gated, the effect of the two porticoes gives the street its special character and its own scale. Visual termination at T-junciton with the principal shopping street Broad Walk leads to lateral anticipation.



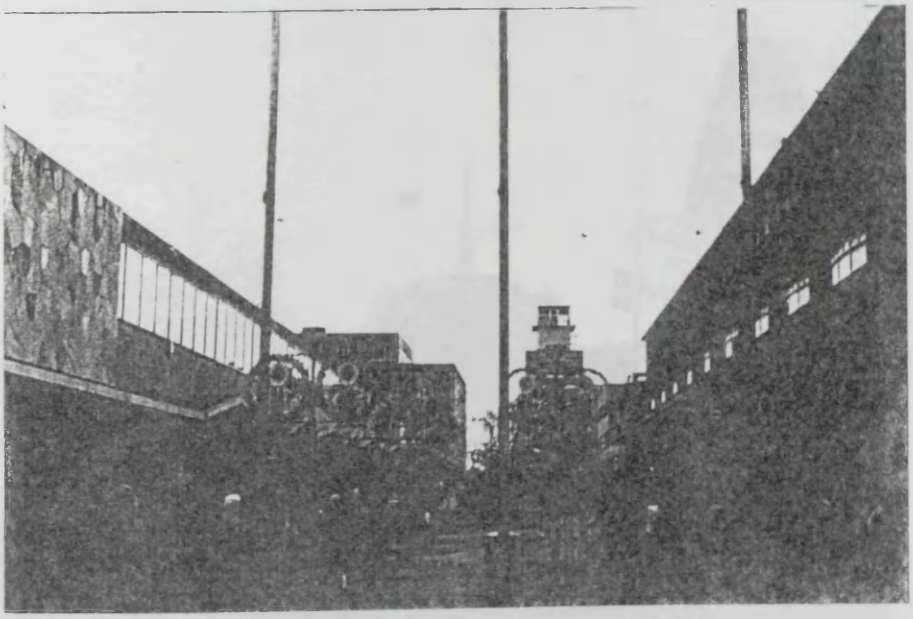
Harlow E4. A landmark in Broad Walk generates a visual excitement, used as element for identification of point of choice and direction.



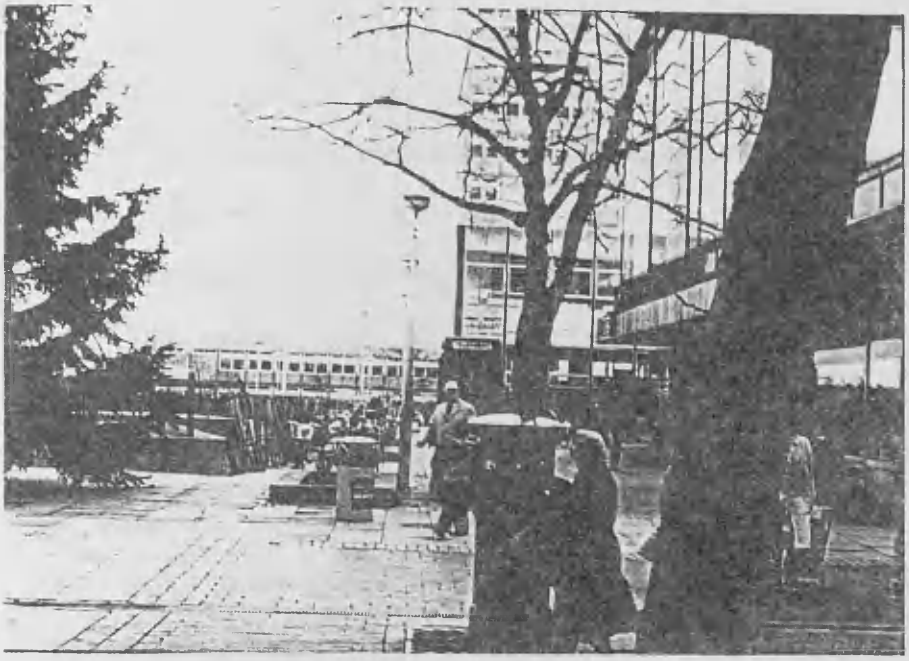
Harlow E5. Progression along Broad Walk towards the market square. Closed vista by market stalls and office buildings surrounding the market.



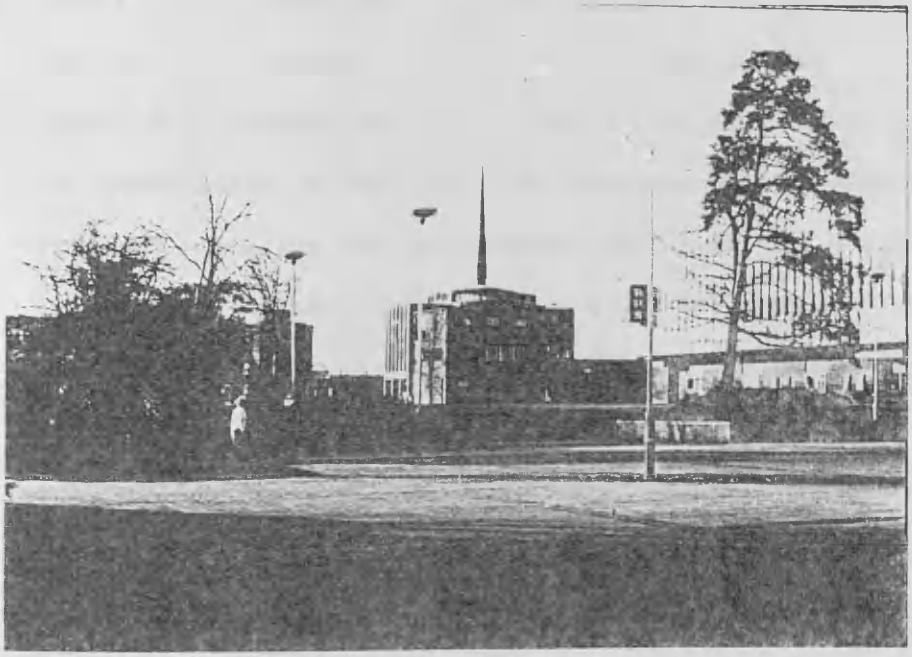
Harlow. Progression from Broad Walk towards the civic square.



Harlow F1. Looking south of Broad Walk, the town hall appears as a powerful landmark for the civic square.



Harlow F2. When approaching the civic square, there is a break in the visual continuity of Broad Walk due to the open space left with no particular function.



Harlow F3. The civic square with the chapel. The segregation of activities leaves the square completely lifeless.

Summary

The design of Harlow was an attempt to product an environment which responds to what people would expect from centres as they know them from the past.

The centre provides a variety of activities concentrated within a small area which gave it an image of an urban core.

Viewing from a distance, the scale of the centre makes it dominant in regard to its surroundings. A tower block (the town hall) punctuates its skyline and acts as a powerful landmark, however its design appearance does not give a glimpse of its function.

The idea of a ring road marking a boundary to the town centre and preventing it from spilling out to the residential area was a fundamental principal in the design of the central area. This concept produces a very strong edge almost impenetrable for pedestrians unless the few underpasses are used. The most fortunate ones are the car owners. Car parks are suitably located and equally distant from the heart of the centre. Easy access is provided from the parking areas to the shopping malls and squares.

All multi-level car parks were once parking zones at ground level but with the density of development, a vertical extension took place.

Spatial Organisation

There is a clear hierarchy of spaces. One can find a series of shopping streets or zones, each with its own character.

Wide street (broad walk for large stores as the main shopping mall), narrow street (little walk, see Access E) for small shops, the market square for traditional trade, finally civic square with its own identity.

This kind of hierarchy of spaces avoids the tailing of interest that occurs with a very long street with all kinds of shops.

The most important factor for the designer in the case of an inward looking centre is how to provide logical and inviting accesses. Harlow centre does not provide these facilities and lets people find for themselves the way to get in.

Intended or not, this had automatically produced a series of surprises, visual anticipations and excitment.

Proper gates, in a sense that one feels invited to go through would have accentuated the image of the centre as an inward looking

An effort was made to give the centre a sense of enclosure. Each street or space was arranged so that the views down it are closed by buildings so that when in it one feels in a particular place rather than just a corridor leading to somewhere else. With these visual terminations, however, their function is limited just to stopping the view and closing the vistas, when by their design they should attract the observer for contemplation as is the case in the old centres where the vista is usually closed by a public building, a church or a monument. In Harlow they are very often office frontages or even blind spots.

The scale, in my view, was an aspect that was carefully studied and controlled. The three to four storey buildings are in conformity with the open enclosed spaces. The market square is a good

example of a space on a human scale. It presents a continuity of the facades in terms of height in reasonable rapport with the width of the square.

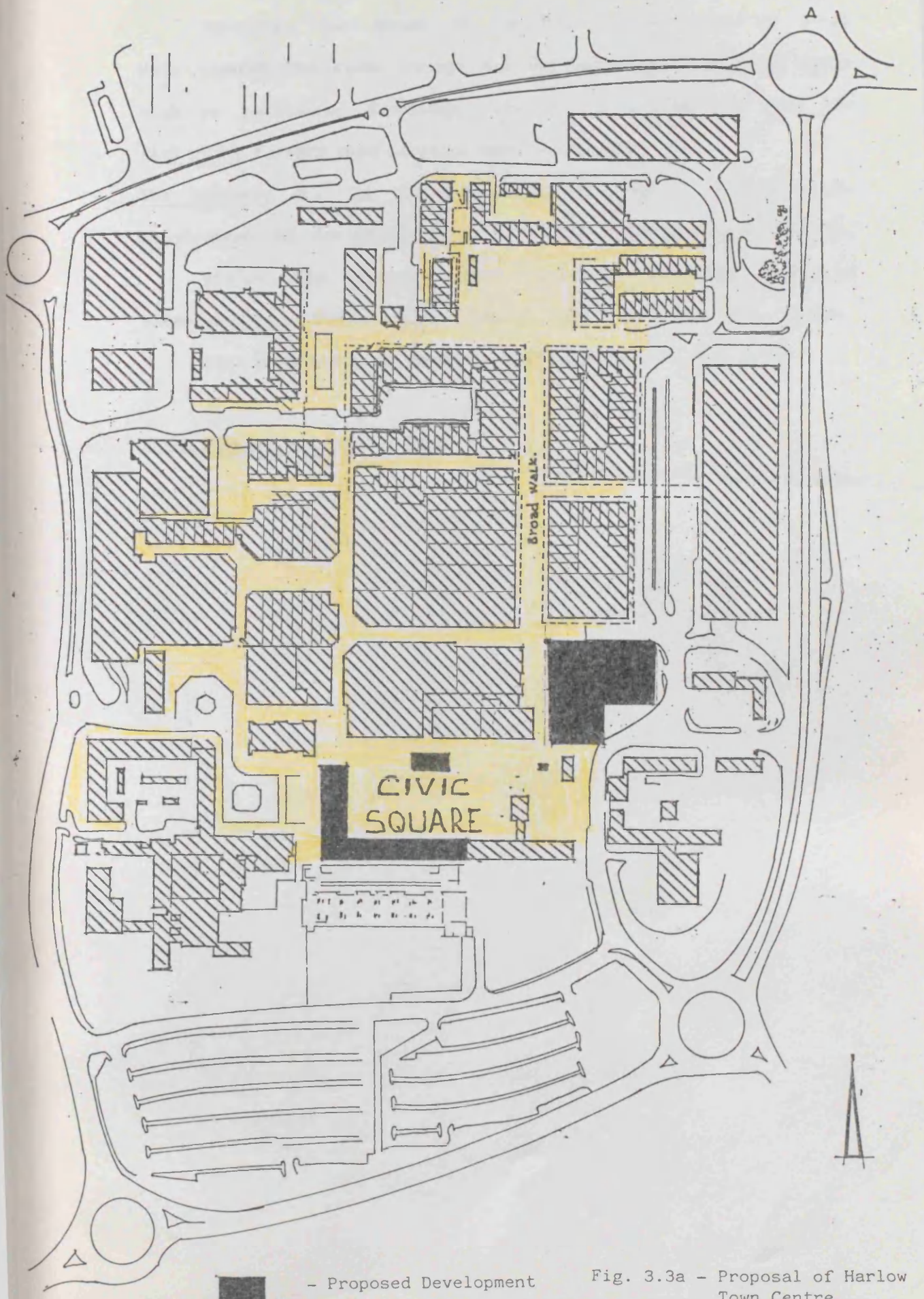
When we come to the visual aspect, the centre presents a lack of variety in its architectural design.

The facades are horizontally emphasised but do not offer any visual interest. Especially in the main shopping street where all the big stores are located. This gives a feeling of monotony and the role of the street is limited to the functional one. The total absence of rythm and the visual impoverishment are the result of almost identical front design from one plotwidth to another and the use of the same material, concrete and steel. A mixture of materials, red bricks, stones would have provided warmth in the centre, and different designs from one plotwidth to another plotwidth would have brought excitement to the streets and squares and would have given the centre its fundamental function as a place where people live and enjoy.

If recommendations are to be made these would be cosmetic ingredients such as differentiating shop fronts made by redesigning them with individual characters using different materials and giving more importance to landscape whether soft or hard by providing more planting, seats, floor texture, etc.

However, there is a direct action to be taken into account as far as Harlow centre is concerned. The civic square which was originally concieved as the focus of the town is nowadays the dead part of the centre.

This is firstly due to the wide openness of the square and the lack of activity within it (see picture Harlow F3).



- Proposed Development

Fig. 3.3a - Proposal of Harlow Town Centre.
Scale: 1/3,000

Secondly, the break in the visual continuity of Broad Walk towards the civic square and the presence of an open space with no particular functions (see picture Harlow H2) stop the flow going forward which isolates more the square.

The proposal will be the structuration of Broad Walk by a new development in continuity with the street to the civic square.

Within the square, daily activity buildings such as entertainment, restaurants, cafes will enclose the square.

More hard and soft landscaping will be needed (Fig. 3.3a).

3.2.3 Cumbernauld Town Centre

The town centre of Cumbernauld is situated on the brow of the main hill of the town. The enormity of the structure and its position makes it the most dominant feature of the whole town.

In contrast to the first generation of new towns - as in the case of Harlow - which tried to revive the open market square and civic square, the centre of Cumbernauld derives from the principle of covered shopping arcades. The aim behind the design was to build a single vast megastructure to accommodate a variety of different uses.

One of the fundamental aspects in the layout was the complete segregation between vehicles and pedestrians.

A major dual carriageway runs the length of the centre underneath walkways.

Beside the roads are loading bays for goods and shelters for bus passengers.

Practically the entire lowest level which steps down on the south east slope is reserved for vehicular traffic. this includes the central spine road running underneath the structure with loading docks and parking areas.

Above are a series of pedestrian decks kept completely segregated from vehicular traffic, even visually.

Access from the car parks in the basement to the internal spaces are by lifts, escalators or stairs.

Pedestrians going to the centre from the residential area use footpaths and enter the centre by a series of ramps (figure 3.4).

In terms of activities, the centre was originally designed to provide all the needs for the community. All functions that a centre should contain were to be found in Cumbernauld Centre administration, shopping, leisure and even residence (figure 3.5).

For some political reasons the centre was never finished and the unpredictable nature of future development, in terms of where it would occur, what function it would contain and what form it would take had become a major design concern. This interrupted development resulted in superfluous open spaces.

As can be seen from figure 3.6 the built up area doesn't relate closely to the road pattern, establishing an independant spatial organisation.

The central area as existing and committed, can be sub-divided into two categories when examined in terms of physical form:

1) Development in accordance with the original concept of a multi-level complex incorporating the vertical segregation of pedestrian and vehicles. The main building is an example of this category.

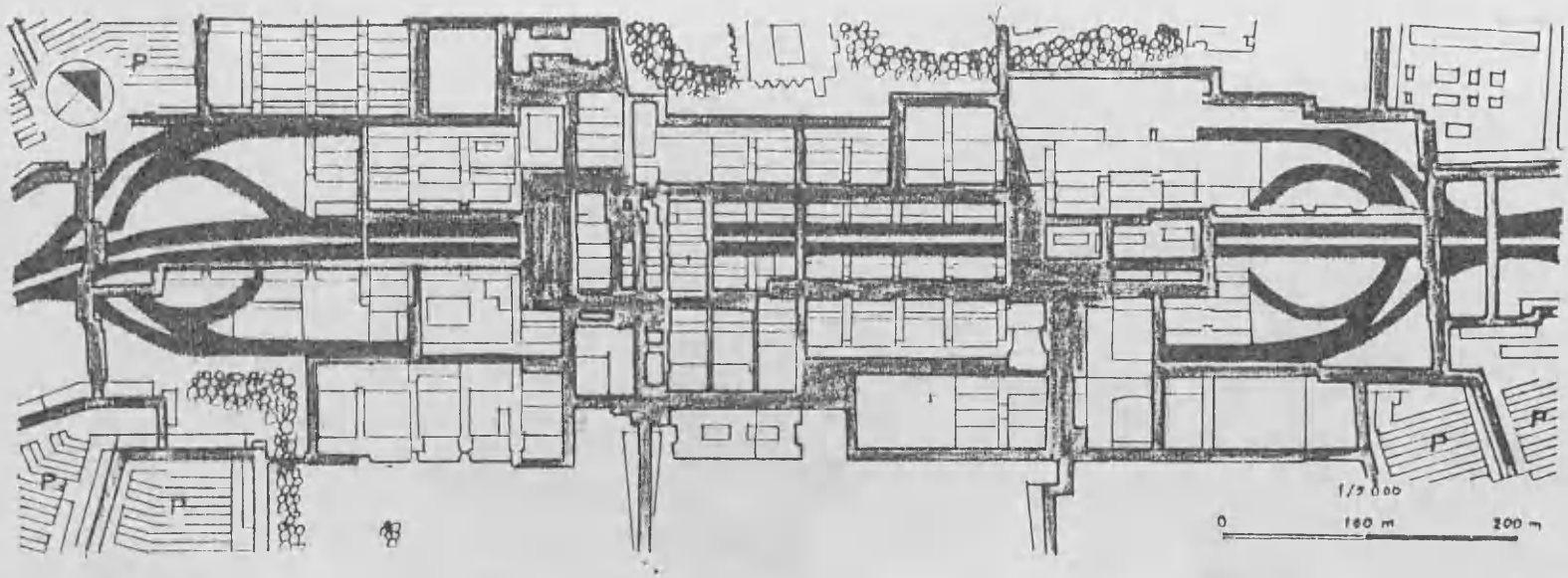


Figure 3.4 - Original Concept of the Design of Cumbernauld Town Centre.

- Carriageways and Access to Car Parks Underneath.

— Pedestrian Covered Malls and Squares.

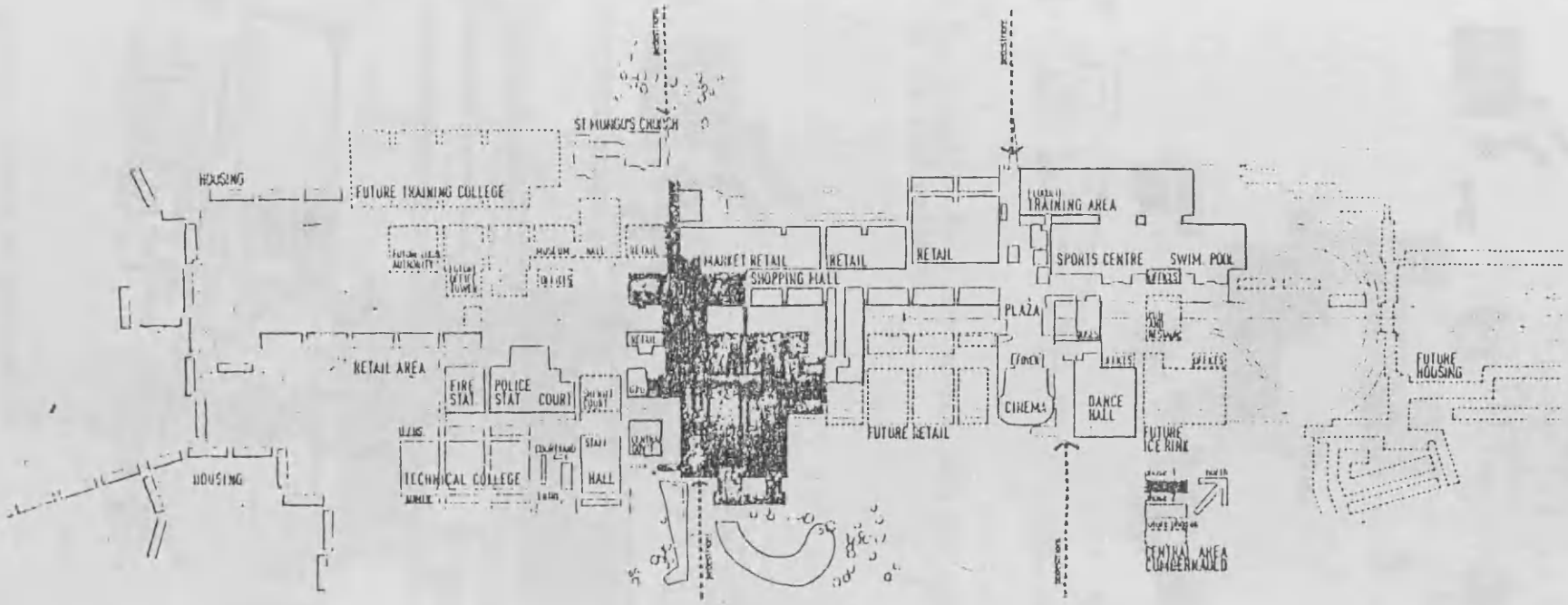


Figure 3.5 - Cumbernauld Original Plan. Functions in the Centre.

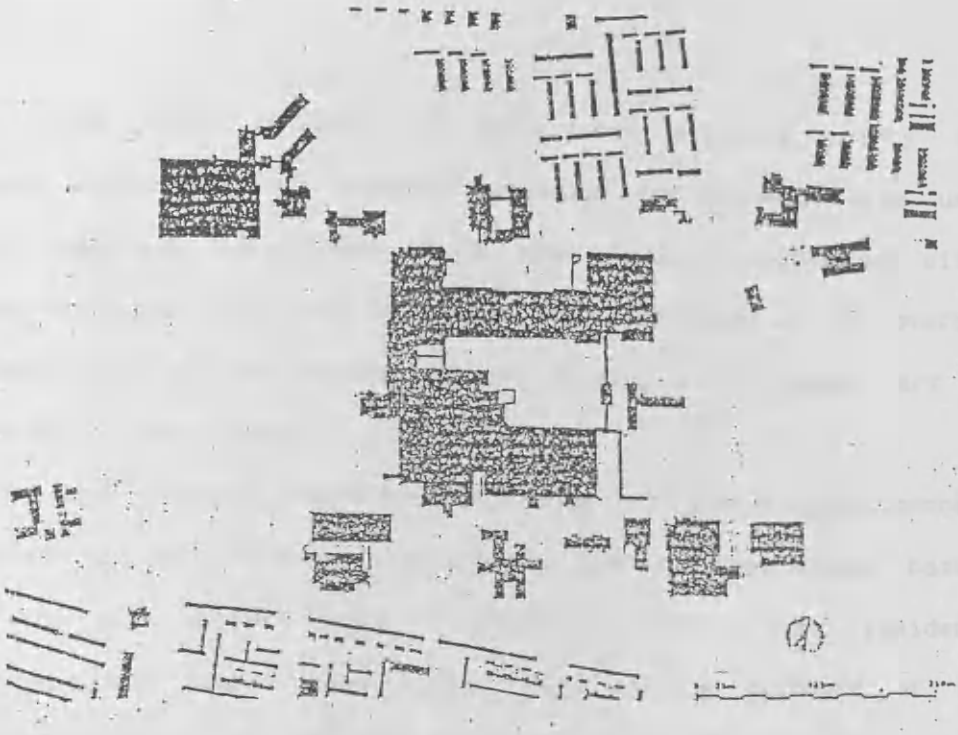


Fig. 3.6 - Cumbernauld: The built up core does not relate closely to the road patterns.

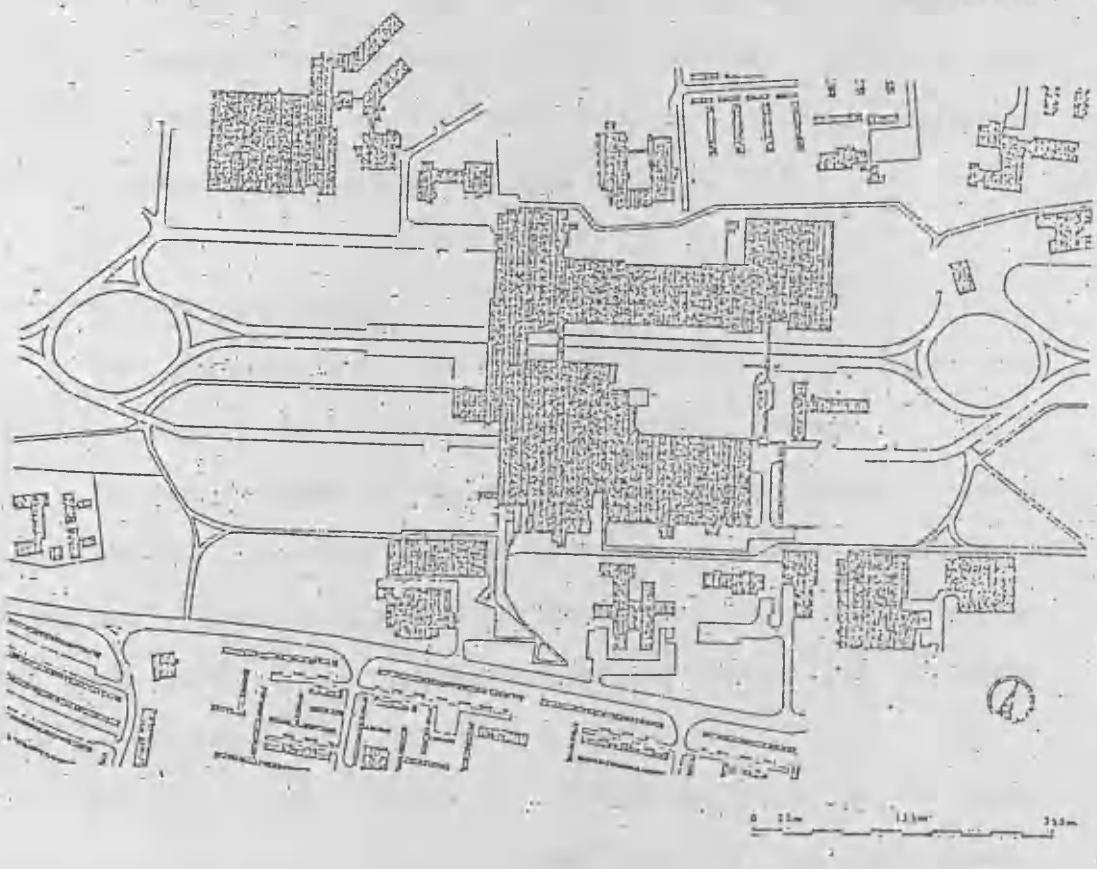


Fig. 3.6a- Existing centre of Cumbernauld.

2) The other category of development occupies mainly the areas which were not formerly allocated for central area uses and comprises development which has required individual sites upon which buildings can be erected with reference to the overall disciplines of the centre without forming an integral part of the multi-level complex.

Some physical characteristics stem from the original concept remain in the existing environment firstly, the linear nature of the site derived from the principle that as many residents as possible should live within easy walking distance of the central area. The diagram in figure 3.7 indicates the way in which a linear centre helps to increase this accessibility in comparison to a traditional 'point located' centre.

Secondly, the principle that the town centre should incorporate optimum segregation of pedestrians and vehicles. This has been achieved vertically in the main building and horizontally in the remainder of the central area (18).

3.2.3 Spatial Organisation

The following analysis will be mainly focusing on the principal building which derive from the original concept.

It was designed as a multi-level indoor spaced building and consists of eight layers linked with ramps, escalators, lifts and stairs (fig. 3.8). The ground and first level on the north side of the carriageway and the basement on the south side are parking areas.

The main retail floors are the ground floor on the south side and the first floor in both sides of the carriageway. The internal organisation combines street and squares, like any open centre (fig. 3.9).

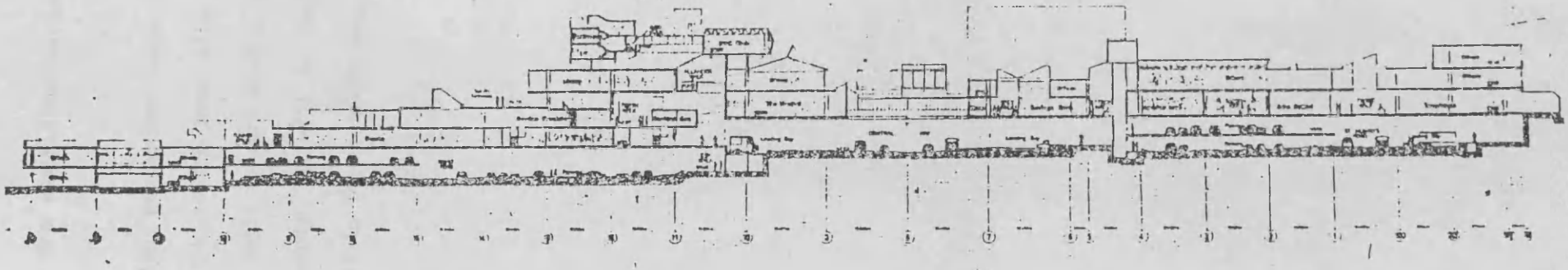


Figure 3.8 - Cumbernauld Centre - Cross Section

Scale 1:1000

In the upper floor are administrative and social activities (fig. 3.10).

In the original plan penthouses were to be on the top floor to bring life to the centre even after the closing hours of shops. Only a few were built and are used as offices.

As for Hrlow town centre, we will be looking at Cumbernauld from a distance and then within the internal organisation.

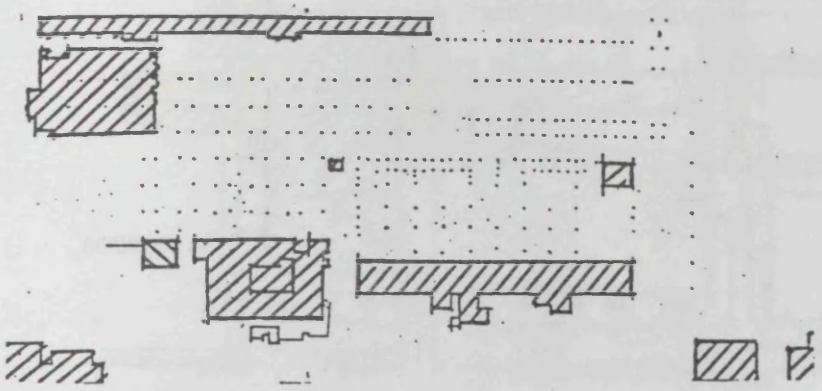


Fig. 3.9 - Cumbernauld: The lowest level of the centre which steps down on the south-east slop, mainly for vehicular and car parks.

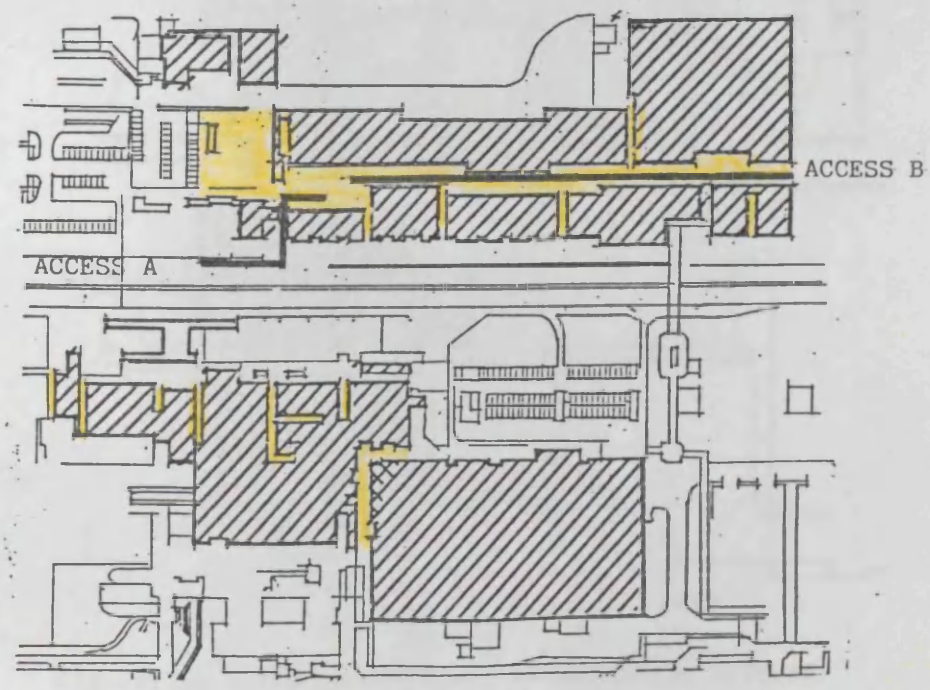


Fig. 3.9a - Cumbernauld's principal retail level at the ground floor with main accesses from the carriageway to the international spaces. Scale 1/3,000.

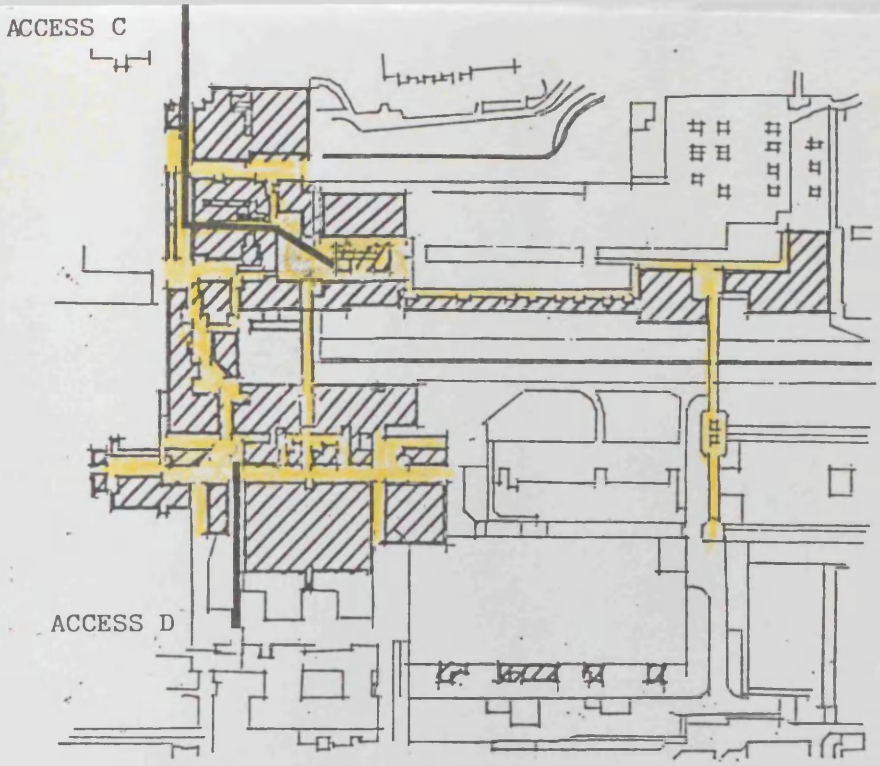


Fig. 3.10 - The first floor retail level
Access C and D are those used by residents.

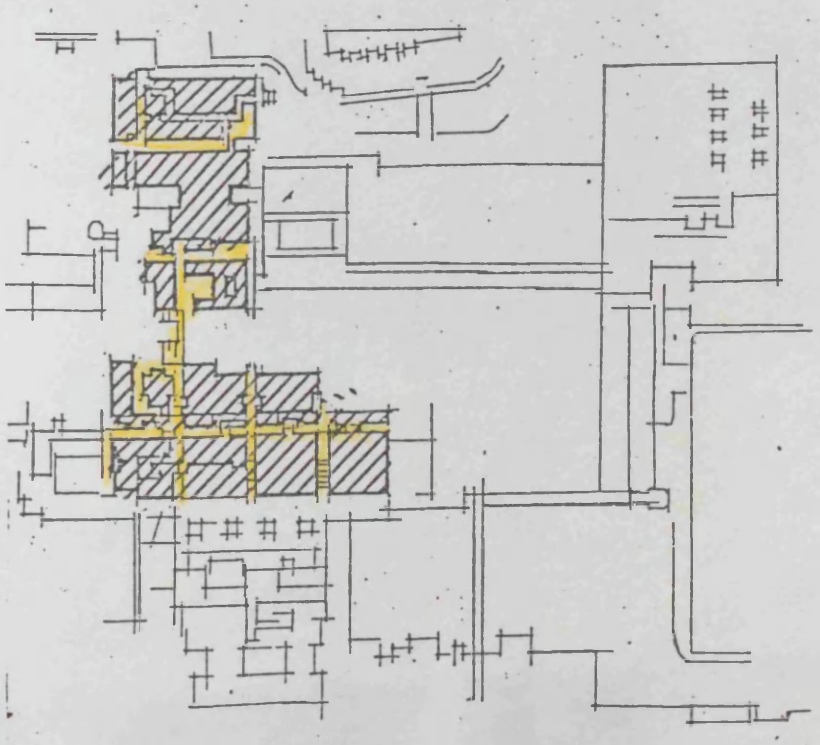


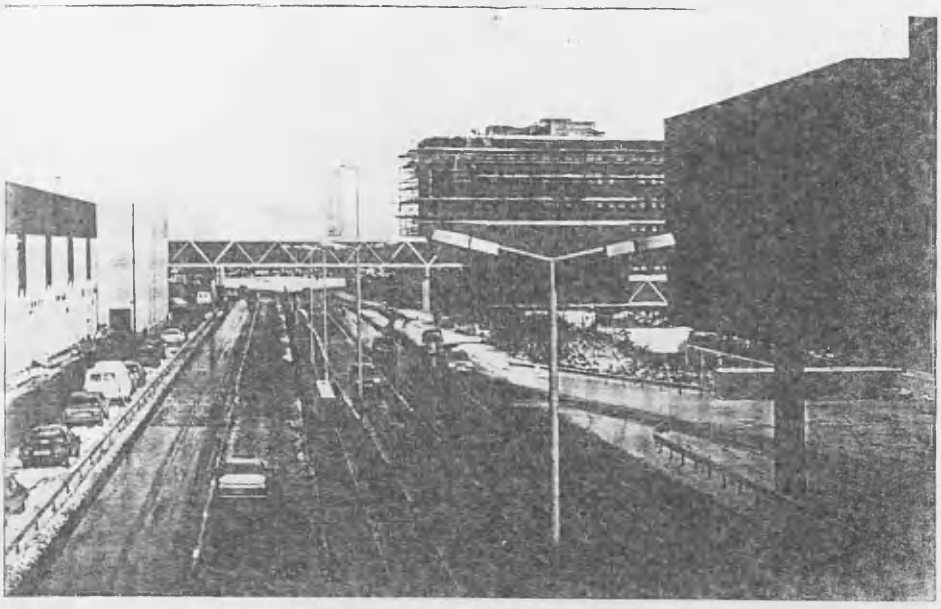
Fig. 3.10a - The second floor is mainly for offices
Scale 1/3,000

3.2.3.2. Viewing From a Distance

Cumbernauld - Skyline

The skyline as it is seen from the east round about. By its position on the top, the immense structure is a landmark from miles. There is no punctuation as was the attempt in Harlow centre but the whole centre acts as a punctuation. The structure appears as an irregular composition of rectangle masses. Ramps and staircases articulate the whole. Emptyness of functional meanings except for the church on the right which by its design tries to communicate a function and attracts visual attention.

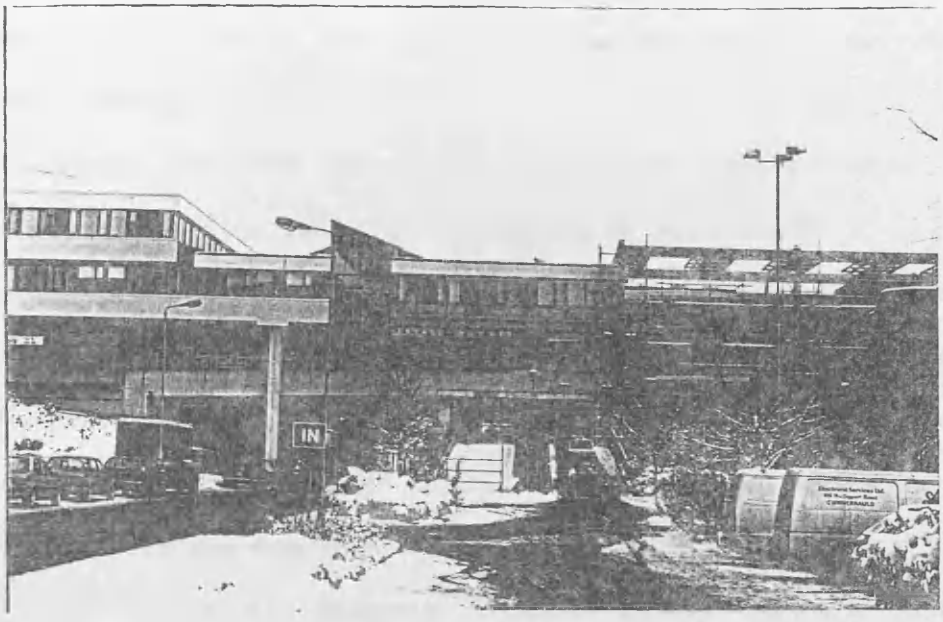
Edges



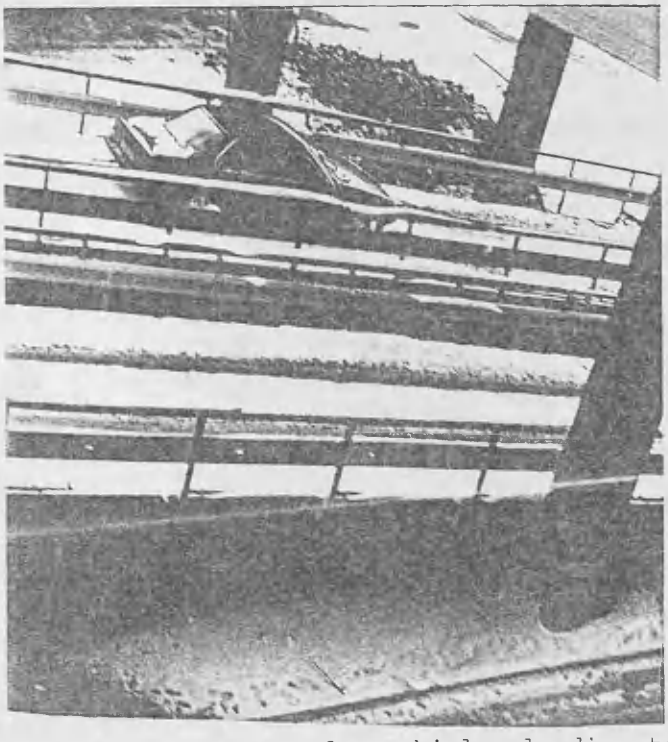
- Cumbernauld. The carriageway by secting the centre and dividing it into two parts, presents a strong edge which can be crossed only by the two high walkways (picture taken from high walkway).

- Cumbernauld. The centre turns its back to this strong edge and faces it with blind frontages.

Parkings



- Cumbernauld. Entrance to the car parks situated at the basement of the centre, by the spine road running underneath the structure.



- Cumbernauld. Ramps for vehicles leading to parking areas underneath the centre.

3.2.3.3. Viewing from Inside

As the centre is an indoor building the most important elements to discover are the entry points which lead to the internal spaces.

These entrances are doors in their proper sense which lead to corridors or directly to shopping malls.

Unlike Harlow centre where strong structural elements (market square, civic square) are the principal spaces to reach, Cumbernauld centre presents more linear spaces as main shopping streets (Teviot Walk and Forth Walk) punctuated by squares of different size and shape.

The following analysis focuses mainly on the shopping floors where people gather every day. As in Harlow centre the visual analysis is based on a progression of scenes. There are four major accesses to the centre:

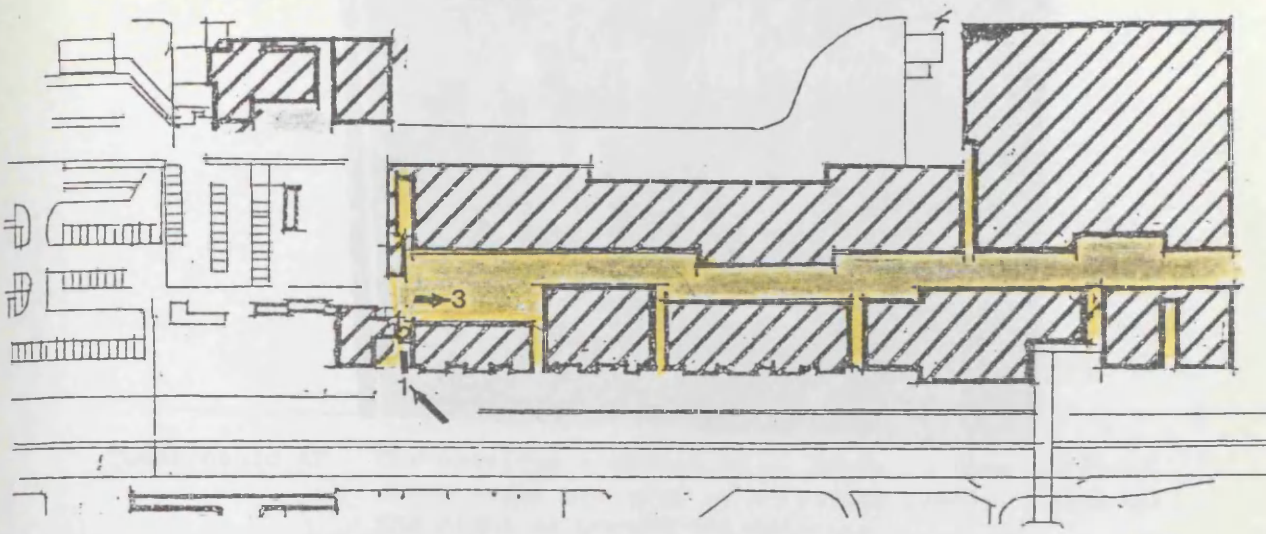
Access A - The principal and the only access for people coming to the centre by bus.

Access B - Used only by pedestrians coming from the residential area and motorists.

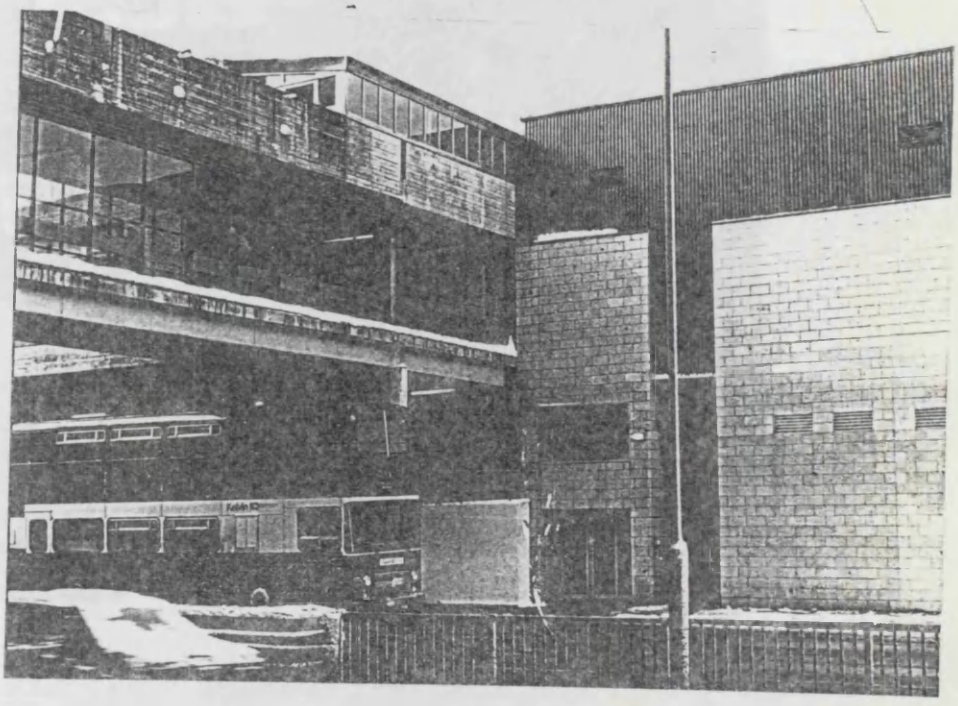
Access C - Used only by pedestrians coming from the north east residential area, and leading directly to the upper level.

Access D - Through footpaths from the south west residential area.

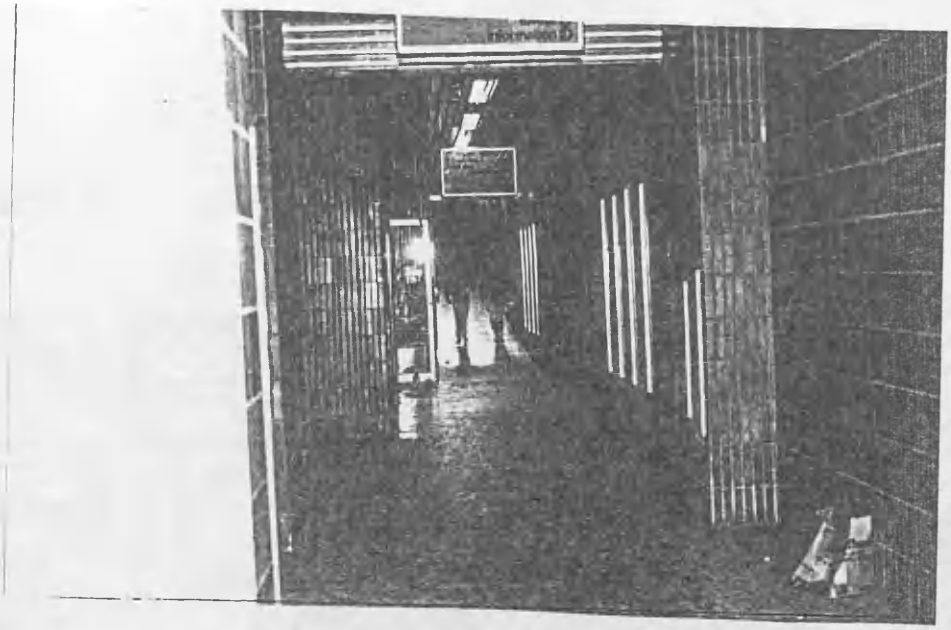
Access A



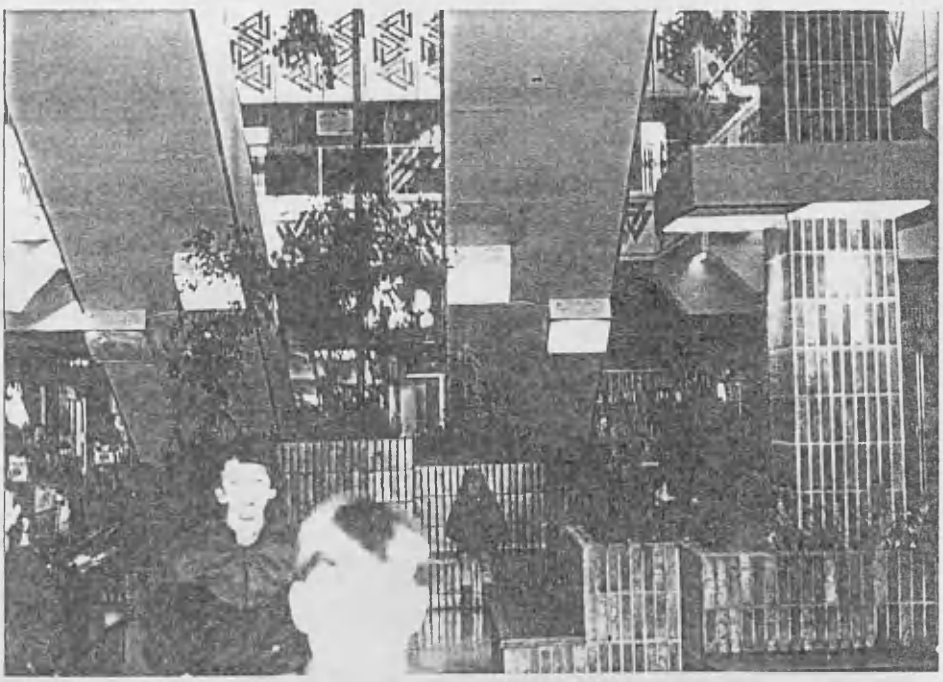
Cumbernauld. Access used by people coming to the centre by bus or taxis.



Cumbernauld A1. The main entrance with any particular character.

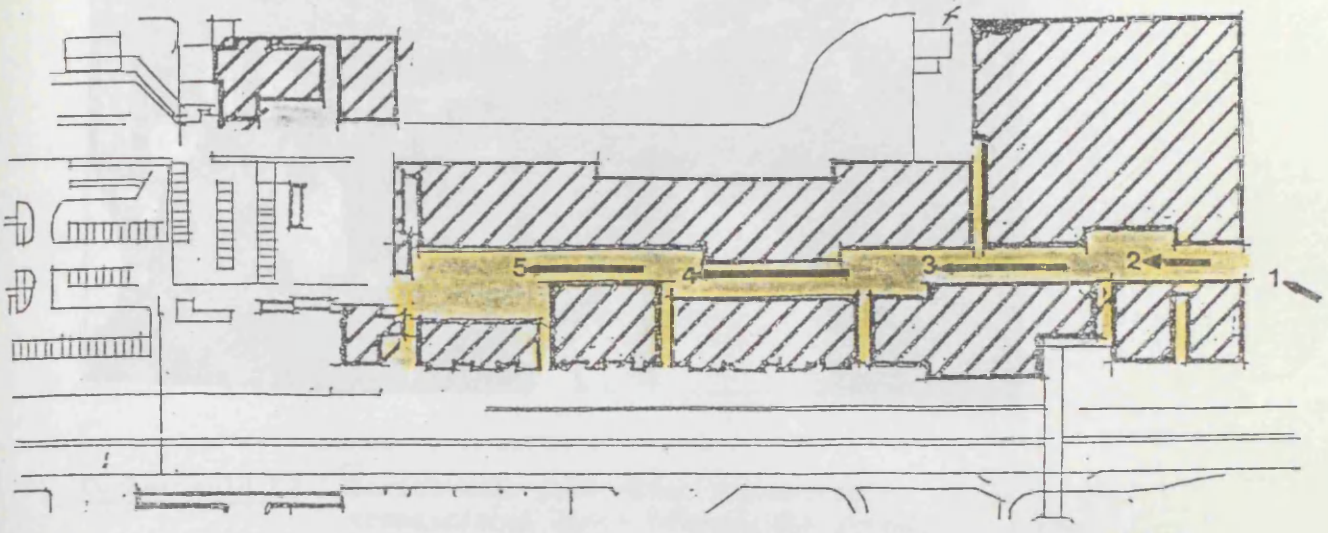


Cumbernauld A2. The previous entrance in A1 leads to this corridor where signs are used to orientate people. Just on the right an unexpected surprise.

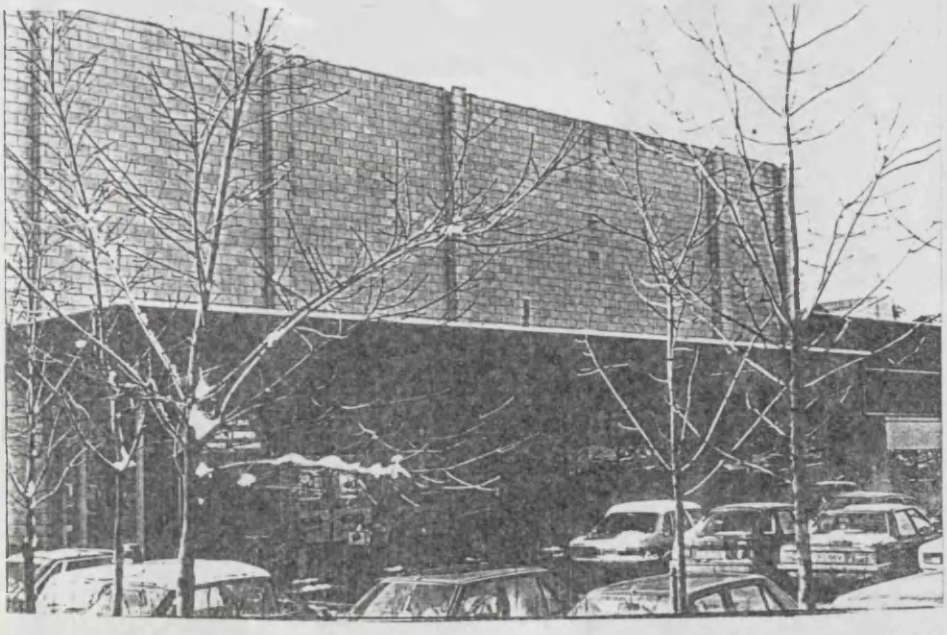


Cumbernauld A3. Teviot Square as seen under escalators to upper spaces. This square by its scale is the dominant space in the centre.

Access B



Cumbernauld. Access used by pedestrians coming from the residential area and motorists because of provision of car park.



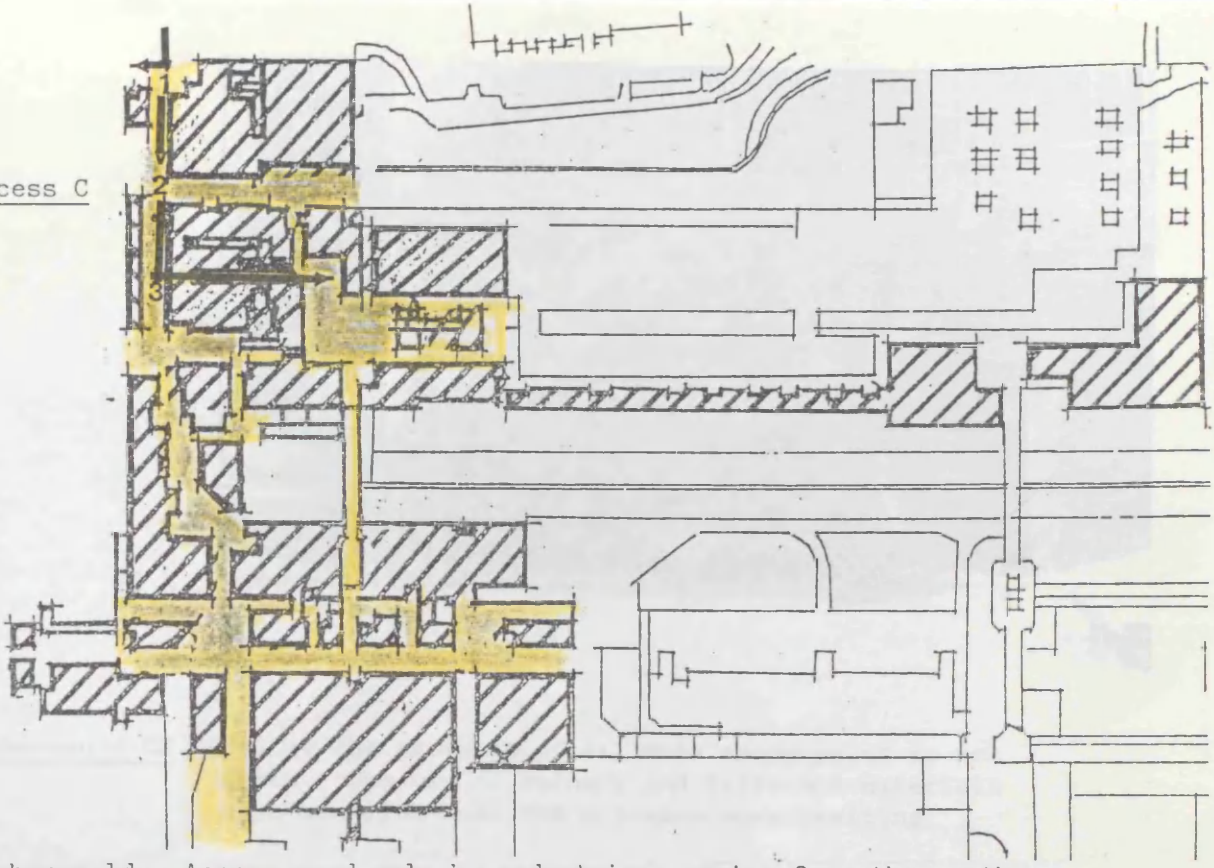
Cumbernauld B1. Entrance leading to Teviot Walk, the principal mall in the centre. This entrance gives the feeling of getting in a shopping store rather than a town centre.

Cumbernauld B2. Teviot Walk just after the entrance. There is no transitional space between the entrance and the internal street. Repetition of module along the frontages but with no variety and architectural interest.

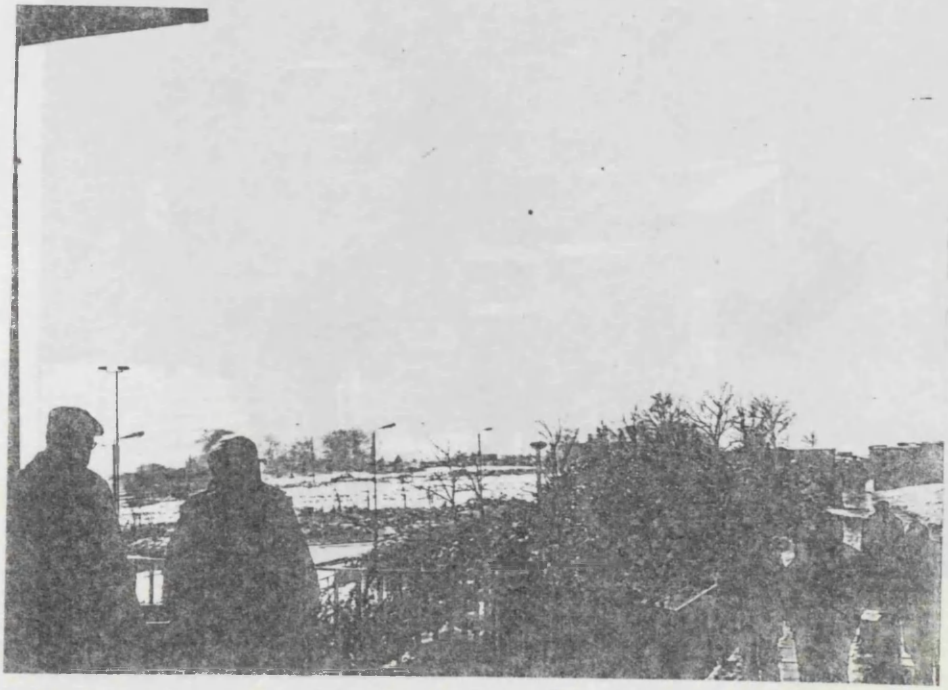
Cumbernauld B3. A square as a punctuation is Teviot Walk. No opportunity is given to people to let them use the square apart seats for a rest under the daylight for a change.

Cumbernauld B4. Another square in Teviot Walk with a sculpture used as an urban element and acts as a landmark. The use of daylight as an urban component provokes anticipation to the square from a distance and gives the square different ambiance.

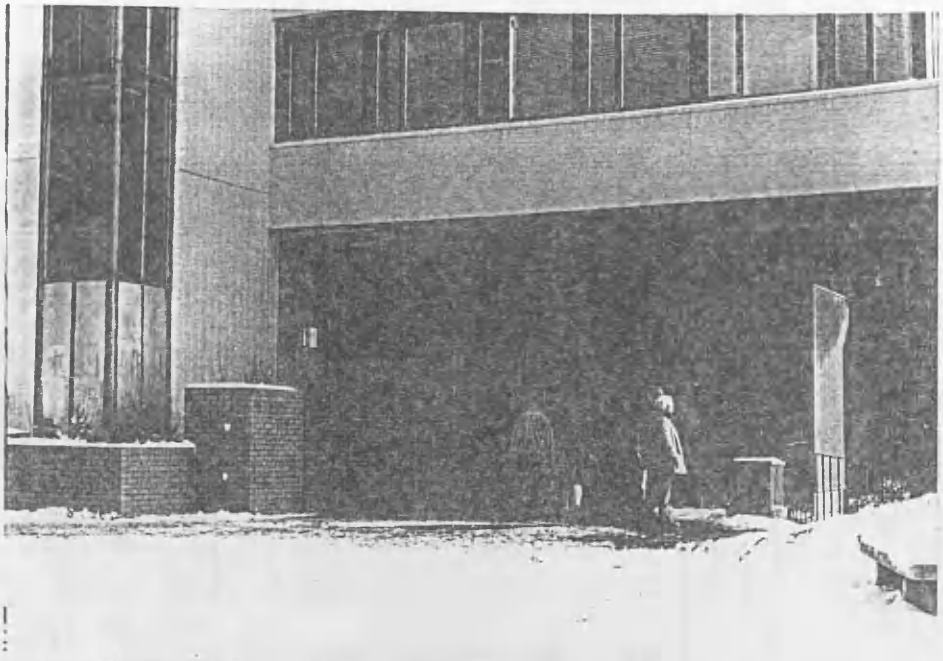
Cubmernauld B5. The main square just as a transitional space where people are not invited to gather. Escalators leading to Ettrick Square providing a mezzanine which assumes a visual continuity of the two squares.



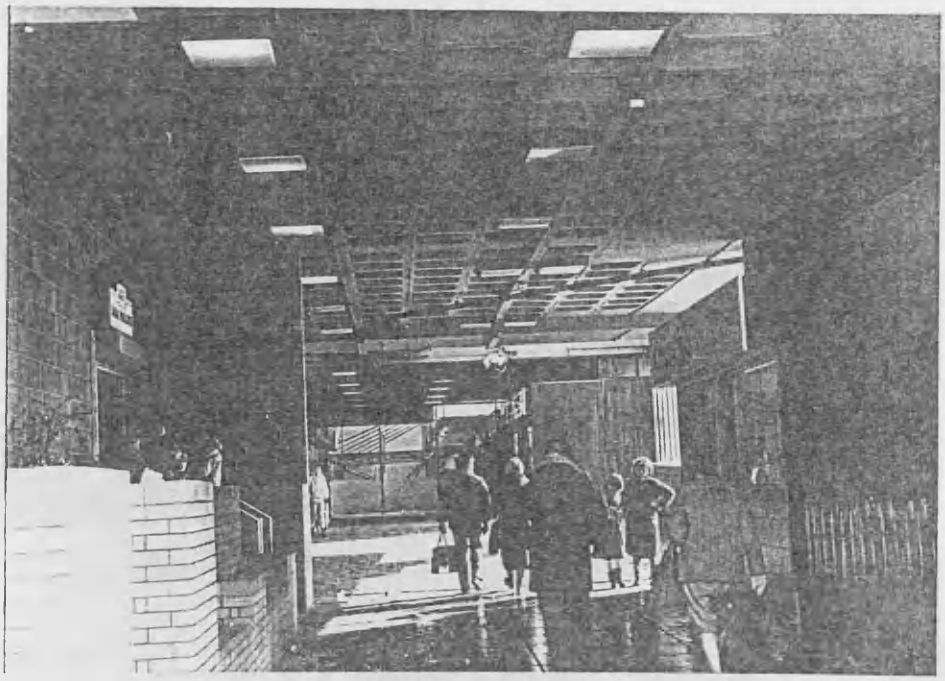
Cumbernauld. Access used only by pedestrians coming from the north-east residential area, and leading directly to the first level retail floor.



Cumbernauld C1. Superfluous open spaces around the centre.

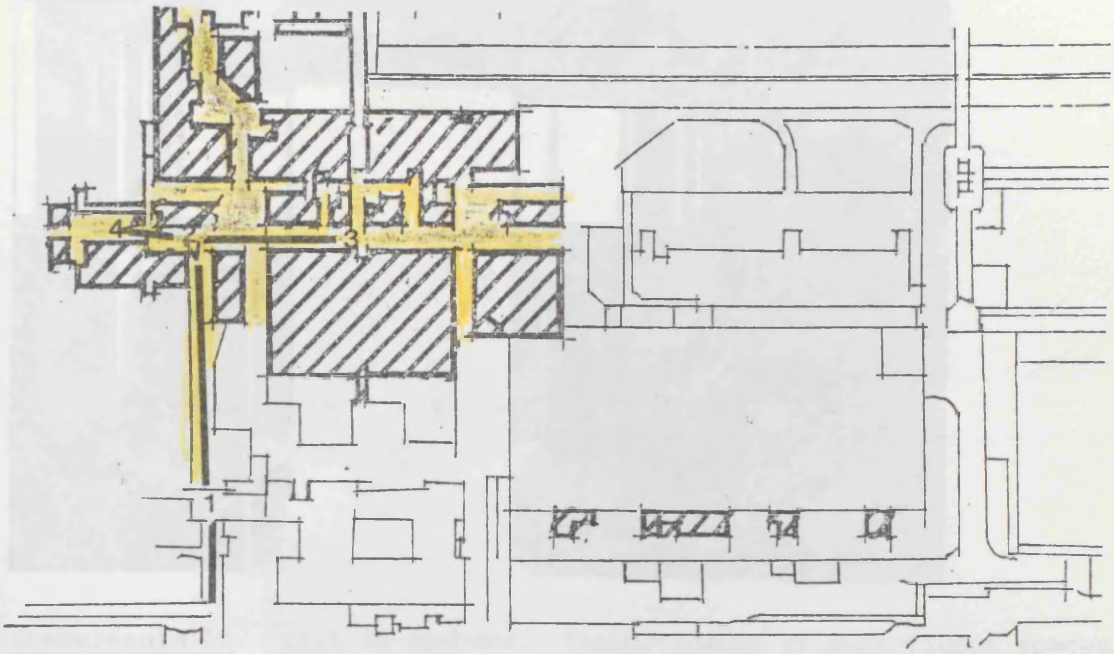


Cumbernauld C2. Unlike the entrance of A1, this entry point is not gated. The use of colours and different materials such as brick make the entrance more inviting.

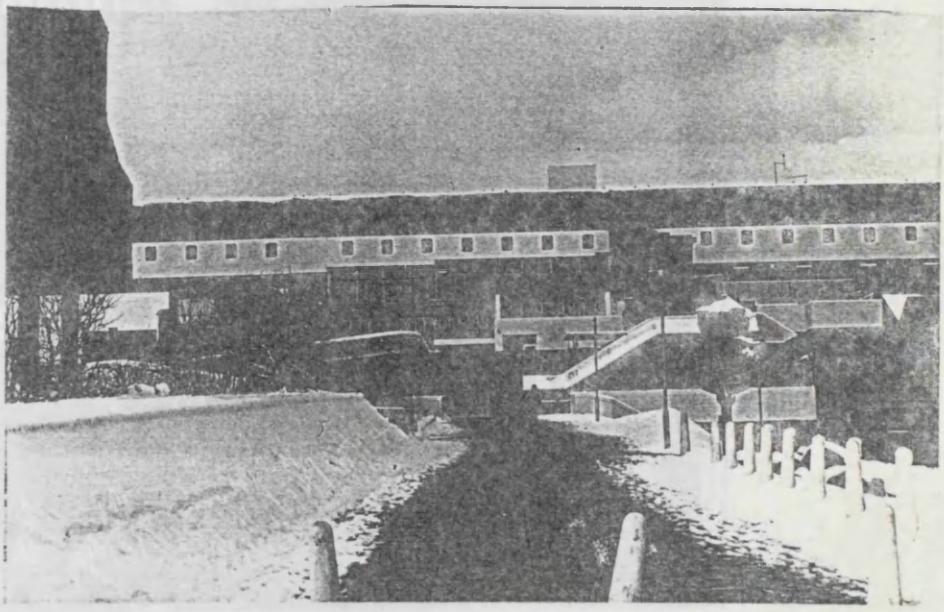


Cumbernauld C3. The previous entrance leads to a corridor where the lack of orientation is enormous. Absence of urban elements that could give point of reference and orientation.

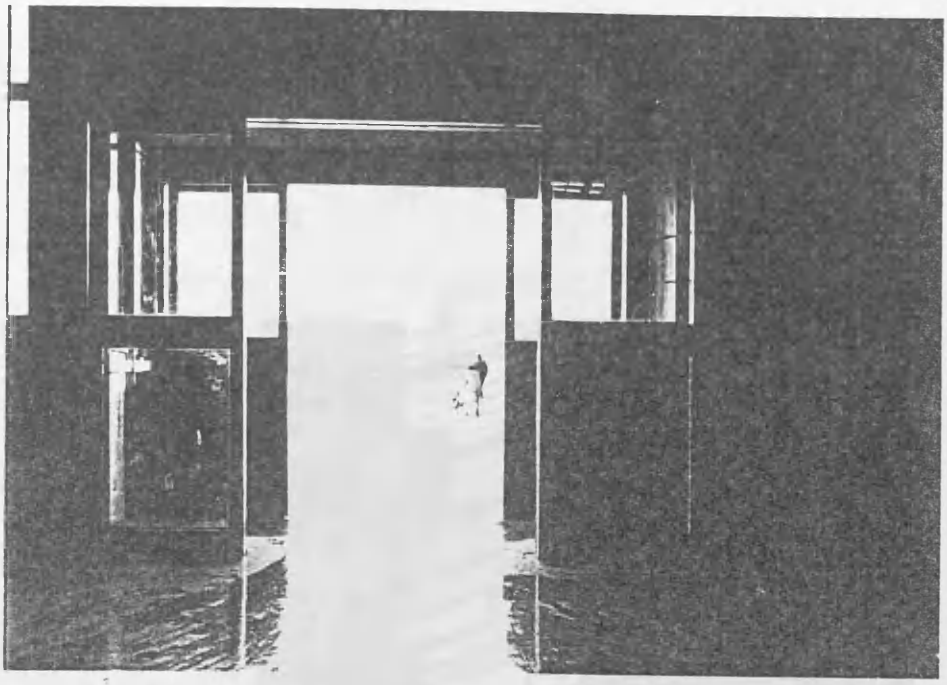
Access D



Cumbernauld. Access through footpaths from the south-west residential area.

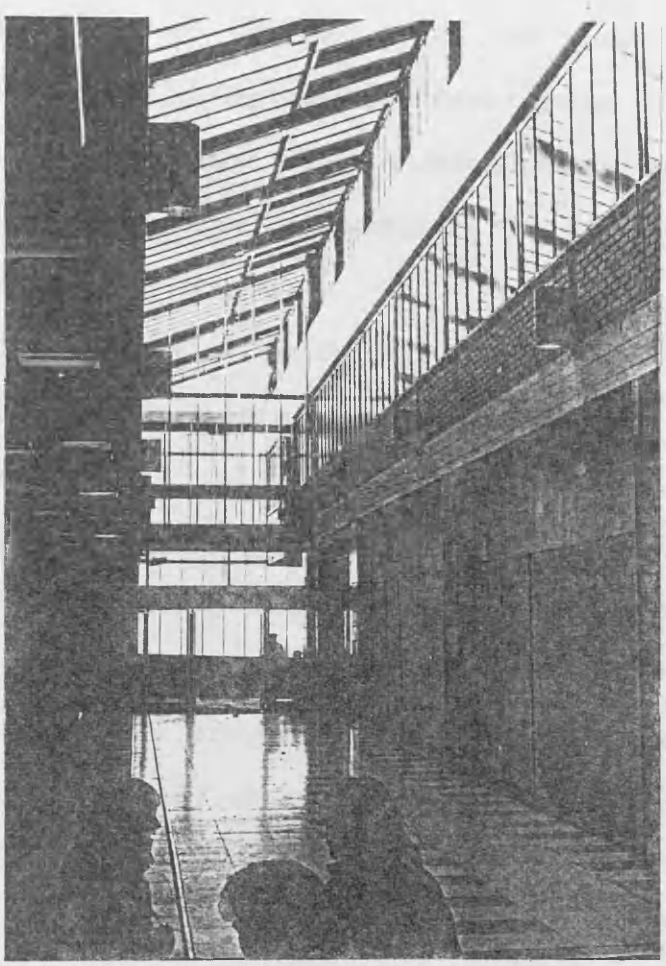


Dubmernauld D1. In contrast to the west frontage of the centre where the structure appears as an irregular composition or rectangular masses (see skyline). This south frontage is linear and horizontally emphasized with staircases and ramps as vertical elements that break the linearity, leading directly to the first level.



Cumbernauld D2. Exit to nowhere. The dominance of superfluous spaces around the centre gives a sense of isolation relating to the surroundings.

Cumbernauld D3. Forth Walk, the main shopping mall in the upper level. The same characteristics of Teviot Walk can be found in Forth Walk. There is no identity to the street. The use of artifical lighting accentuates the effect of enclosure.



Cumbernauld D4. To attenuate the effect of insideness accentuated by artificial lighting in Forth Walk, Clyde Walk which is in continuity with Forth Walk is contrasted by the use of natural lighting.

Summary

The centre of Cumernauld as an indoor conception tried to accommodate a variety of activities under one roof. In terms of function the centre responds to the needs of the community.

The whole masse of the centre, by its scale and position on the top of the hill represents a punctuation for the town.

There is no particular urban element acting as a landmark to identify or specific zone or function. The whole megastructure is empty of any symbolic meaning.

A high segregation of pedestrians and vehicles was achieved on a vertical plane instead of the horizontal plane as was the case at Harlow.

Functionally this segregation works perfectly well and can be measured in safety terms with the lowest number of road accidents in the U.K. (19)The carriageway which divides the town centre into two parts presents a very strong edge impossible to cross. Such a system, as safe as it can be, has the drawback from the pedestrian point of view of canalizing them along the walkways and making it impossible for them to flit from one side to the other except at bridges. From the motorist point of view, this system is perfection since it gives high speed possibility and no traffic lights.

Vertical segregation in terms of function (trade, leisure, work, home) at different levels exist within the centre.

The same principle of an urban core remains in Cumbernauld centre. Squares, streets, urban furnitures and even street names. Although these applications remind us of our old settlements where they are the structural elements of centres, in Cumbernauld they do hot have a great impact on the urban scene. If we take

for instance Teviot Walk, the main shopping street, it is certainly punctuated by three successive squares but the purpose of these squares was not to give people the opportunity to gather if anything like a big event happens in town as most of the traditional squares are for, but it was just to break the monotomy of a long street.

In both sides of the street are sterile frontages empty of visual interest and variety due to the same front designs and the use of the same material (glass and aluminium).

The internal spaces made signs and lights fundamental components acting as landmarks to orientate people through different spaces of the centre.

Landscaping had been a weakness in Cumbernuald centre. It was almost completely rejected from the internal spaces.

A proposal for Cumbernauld central area is illustrated in Chapter 4.

3.2.4 Milton Keynes City Centre

The site of the centre occupies two and a quarter city grid squares. It is located approximately in the centre of the town to provide a high level of accessibility from any part of the town. The plan in figure 3.11 clearly indicates that the identity of the centre will not be that of a simple element but rather a series of spaces, buildings and routes designed to offer a range of locations and opportunities.

As indicated previously in Chapter 2 each grid square is divided into eight developable blocks which can be sub-divided by local access or service roads.

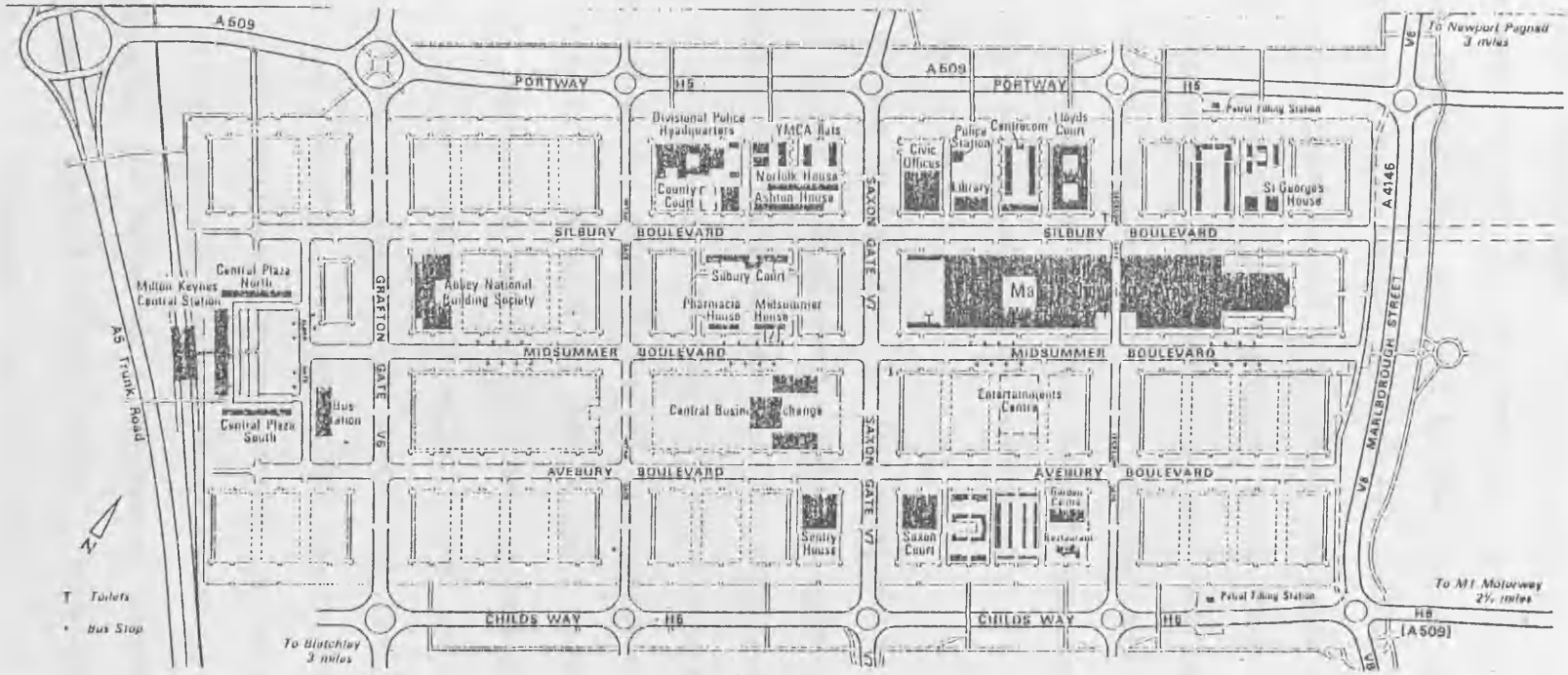


Figure 3.11 - Milton Keynes Central Area.

Three main axes run the length of the centre, lined with trees and named as Boulevards.

Midsummer Boulevard is the principal axis. It is centrally located and closed to the west end by the central railway station.

Secondary roads cross the centre north-south at up to half kilometre intervals and with their junctions within the three boulevards, produce a grid pattern within the centre's grid square. Segregation of pedestrians and vehicles was one of the aims behind the layout. The proposed pedestrian network provides a diversity of footpaths towards the centre. At their junctions with roads, over and underpasses are used to avoid vehicular traffic.

Car parking areas are to be provided at ground level immediately adjacent to development. This could give the possibility to meet demands by their conversion into multi-storey car parks. In terms of activities, the plan of Milton Keynes saw the city centre as being the main focus of city activity, serving the 250,000 residents. As such by 1990's it is envisaged that the centre could contain a variety of uses including a retail and commercial service, offices, a major indoor recreation centre, sport facilities, a centre for music and the Arts including a theatre and concert hall, commercial entertainment facilities such as cinemas and dance halls, housing for some 5,000 people and public library, museum, law courts and policy headquarters (20).

Landscaping was taken as a fundamental factor at the start in the design of central Milton Keynes. This image is given at first sight by the boulevards lined with trees.

As most parts of the site are still undeveloped, it will be difficult to make any judgement about the whole composition of the central area, however, it will be worthwhile to focus the analysis on the shopping centre, which is the nucleus of the centre.

3.2.4.1 Milton Keynes Shopping Centre

3.2.4.1.1. Spatial Organisation

Located in the eastern part of the centre, the shopping building was concieved as a covered indoor street complex. In contrast to Cumbernauld centre, the plan shows a simple organisation which consists of a rectangle of one retail floor. It is symetrical in plan, divided into three by two main malls or 'High Arcades' 12m wide x 14m high, crossed by eight high subsidiary cross walks at 90m intervals connecting to car parks and public transport on the perimeter (21). All the malls are the same width. There are very large public spaces, the covered mall, the garden courtyard, the city square and the market square.

The perimeter entrances were deliberately designed to be permanent openings, approached under port cocheres.

Rich is the volume composition (figure 3.12) with the two long arcades punctuating the building masse by their height.

The volumetry of the arcades is interrupted at 90m intervals by the subsidiary cross walks which produce a certain rythmn in the frontage.

A new method of servicing was introduced in Milton Keynes shopping centre. Although the centre is a single level, servicing is done at roof level (figure 3.13).

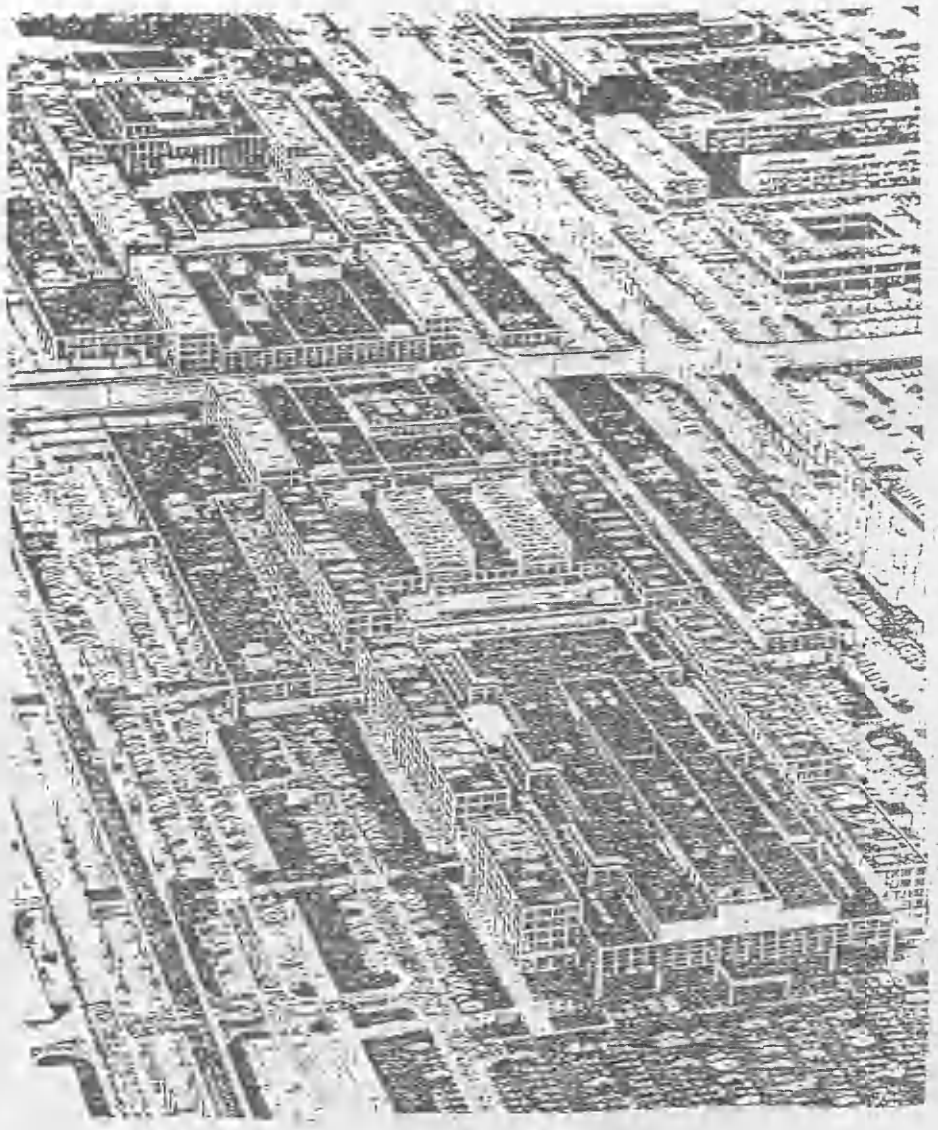
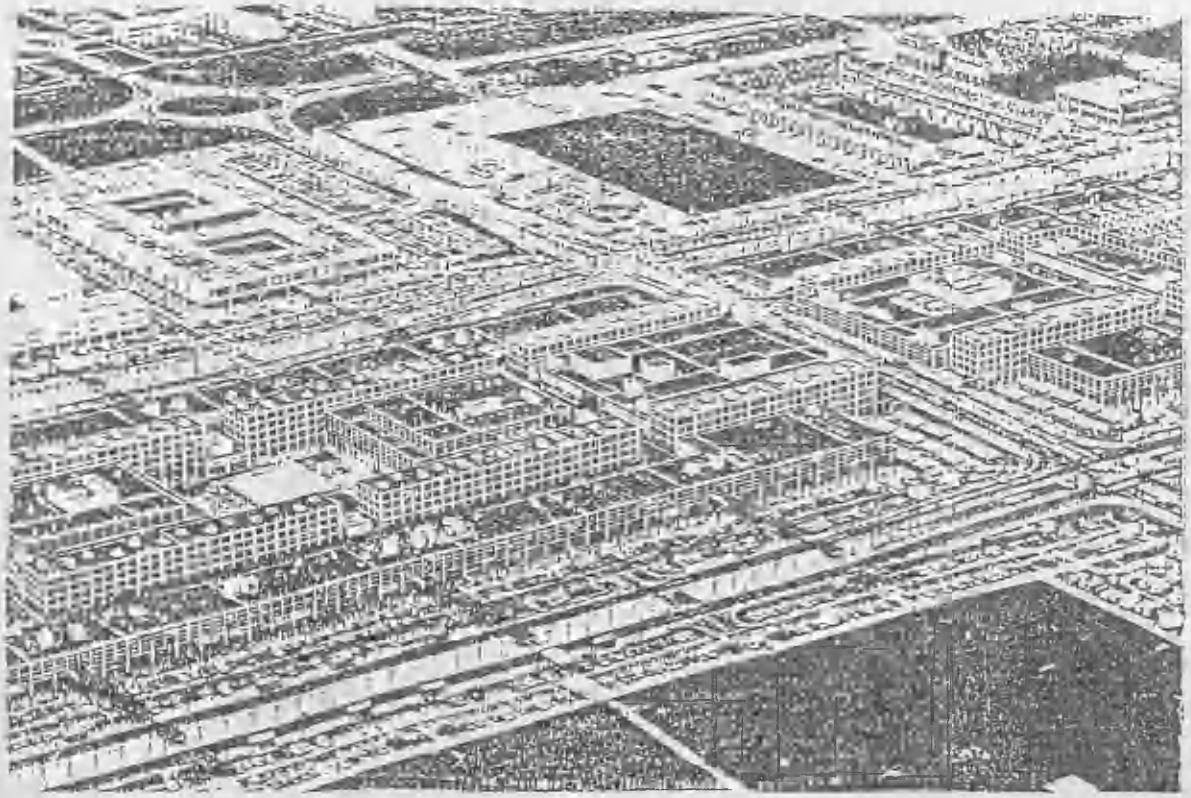


Fig. 3.12 - Milton Keynes shopping centre volumetry.



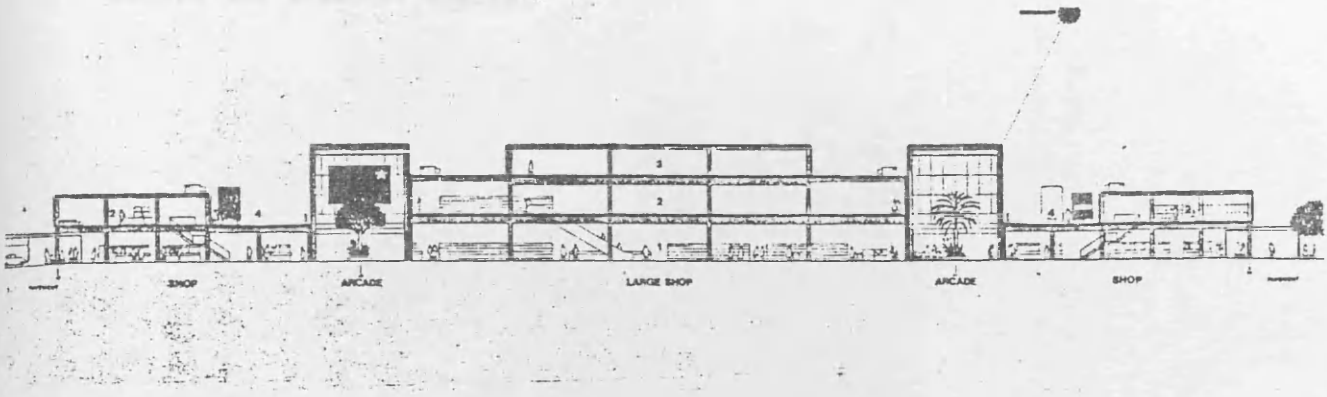
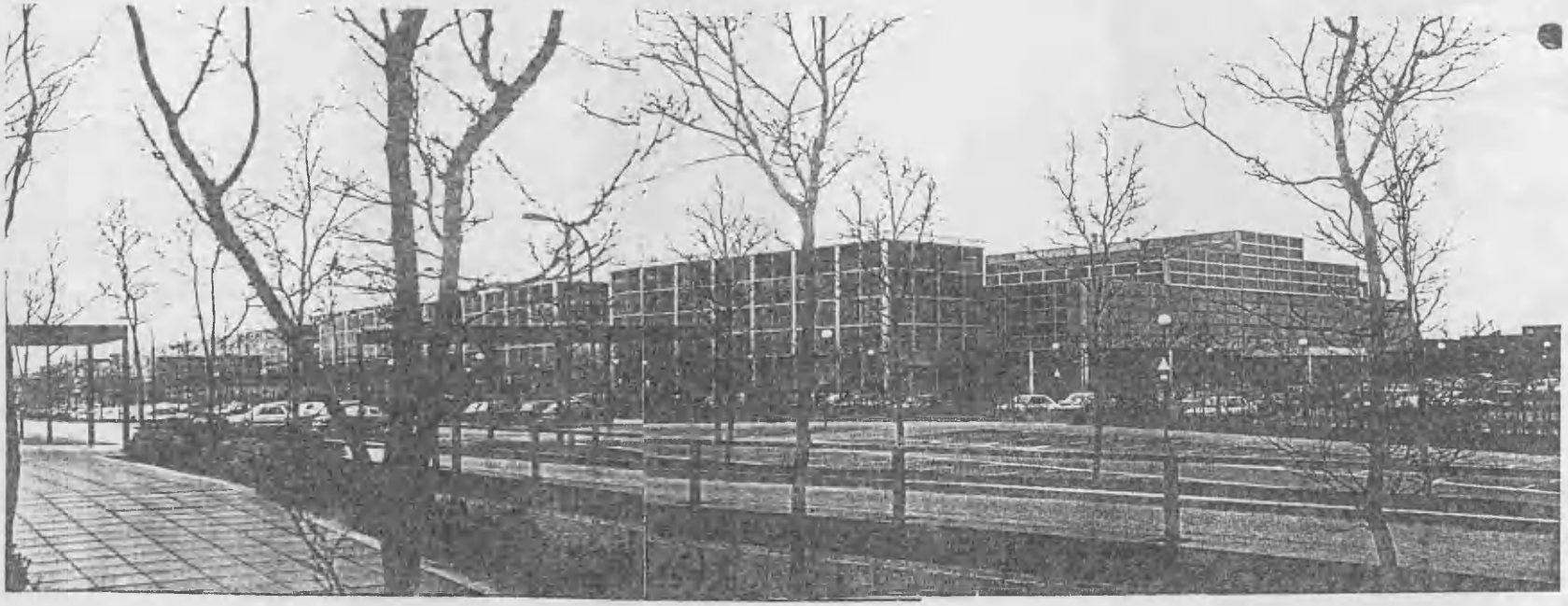


Fig. 3.13 - Milton Keynes lateral cross section servicing by high level ways.

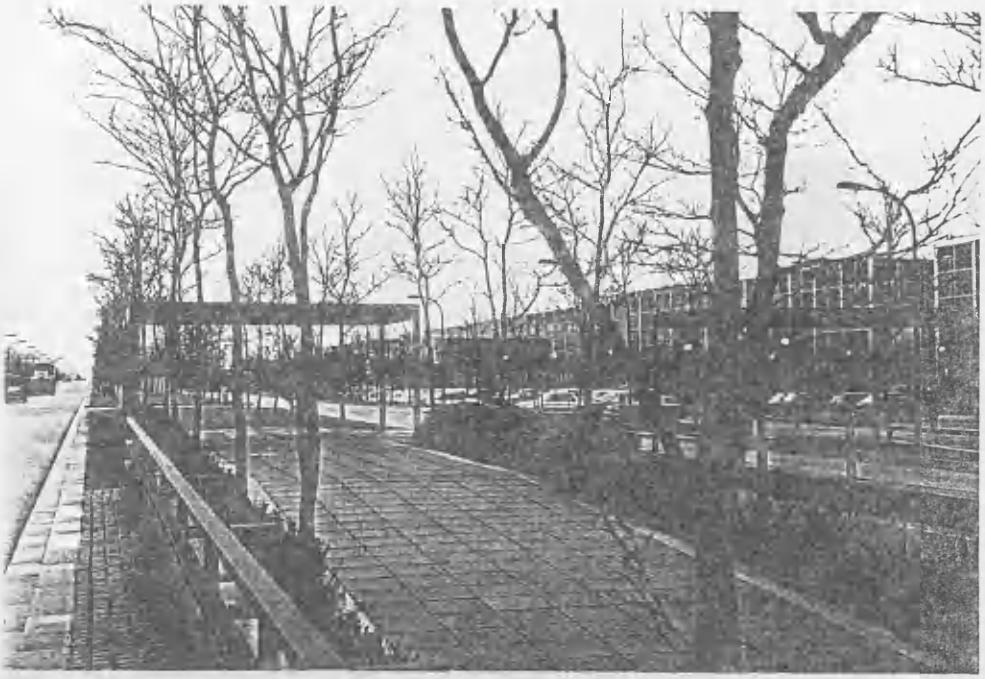
As in the case of the two previous centres we will be analyzing Milton Keynes shopping centre from a distance and within the internal spaces.

3.2.4.1.2 Viewing from a Distance

Skyline - Milton Keynes Shopping Centre



Milton Keynes - The skyline as it is seen from the east end of Midsummer Boulevard. The structure appears as a regular composition of rectangular masses. There is no impact on the skyline apart from the successive sequences of modules in the arcades. There is no reflection on shopping centre function.



Milton Keynes. A boulevard with growing trees presenting a strong edge to the shopping centre.

Milton Keynes. Underpasses avoiding the vehicular traffic.

Parkings

Milton Keynes. Parking areas provided adjacent to the boulevards in front of the shopping centre entrances.

3.2.4.3 Viewing From Inside

Unlike Harlow and Cumbernauld, the entry points to Milton Keynes shopping centre are well defined whether coming by car, bus or using pedestrian ways.

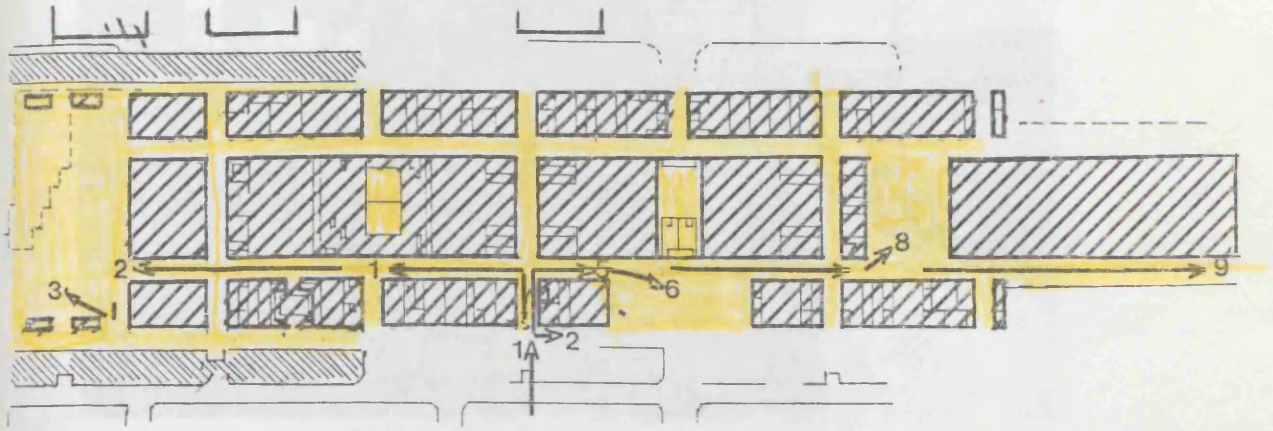
They are located on the perimeter of the shopping centre and identifiable by a system of port cocheres leading to entrances.

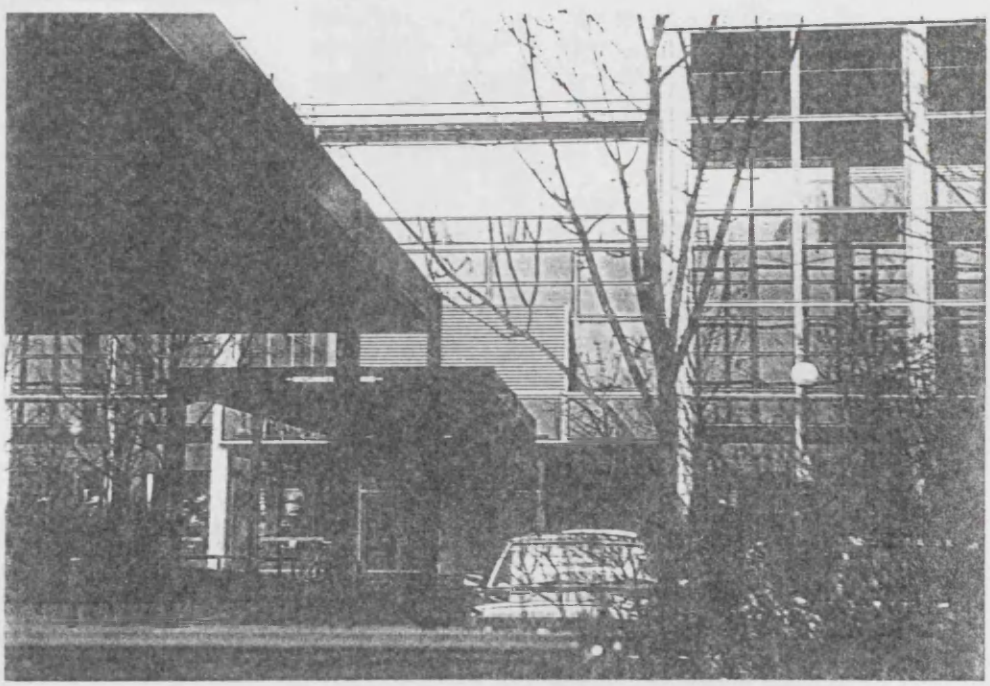
As the shopping centre presents a symetrical plan where the two arcades are similar, only one arcade will be analysed.

The following analysis, as in the case of the two previous centres Harlow and Cumbernauld, is based on a progression of scenes as one moves along the arcades.

All the entrances lead to the same space - the arcade - in this case only one access will be taken into consideration and two ways A and B, whether one goes to the right towards the eastern exit on to the left towards the city square.

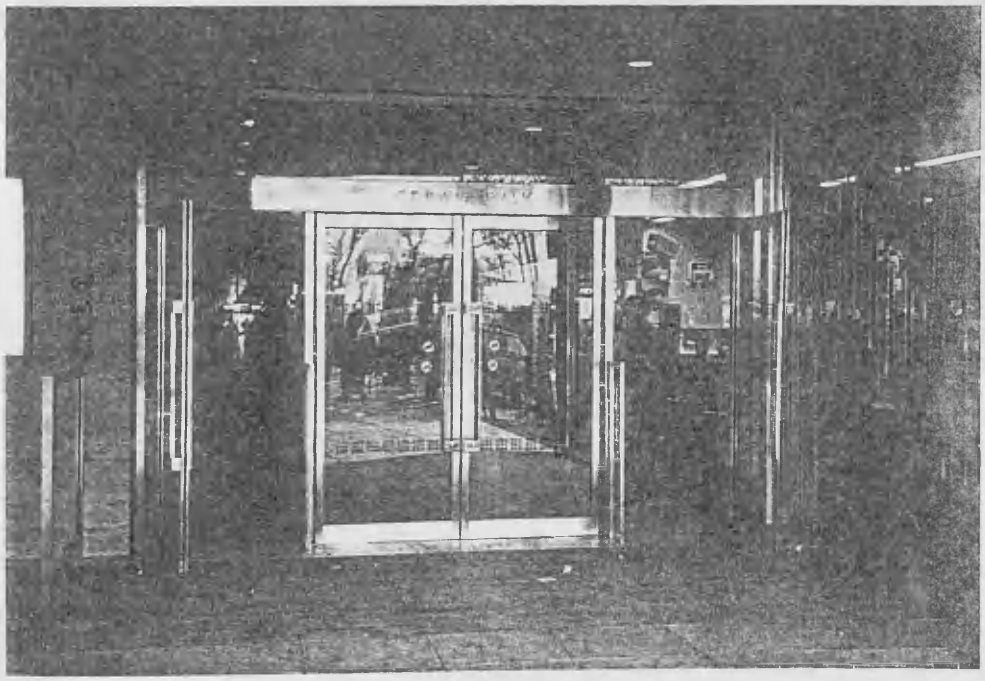
Access A





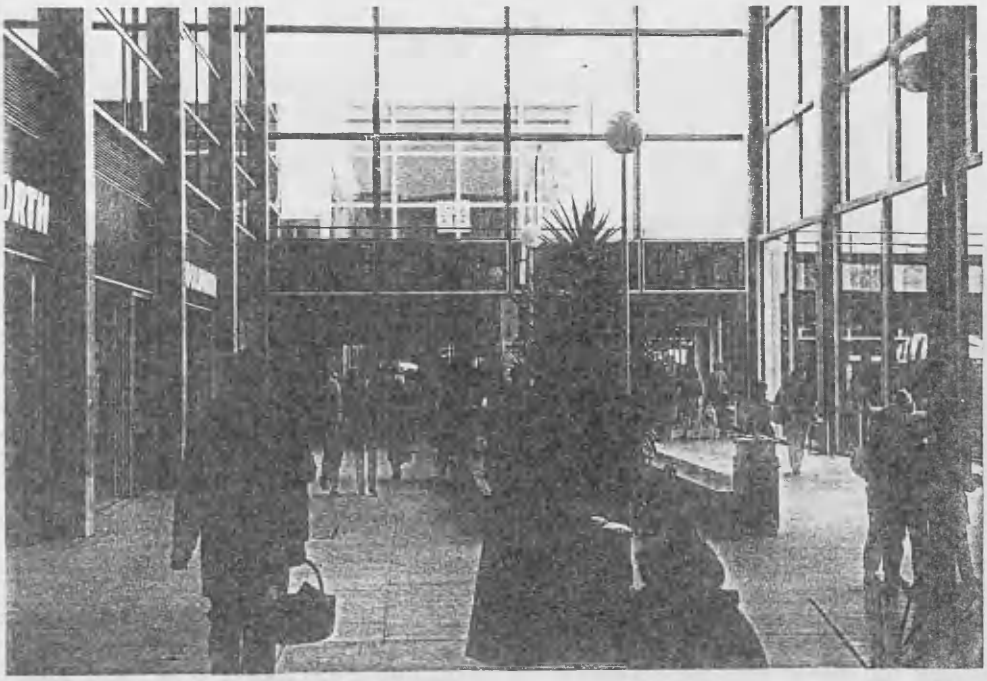
Milton Keynes. An entrance marked by port cochere covering the way from the alley to the entrance.

Milton Keynes A2. Lateral view from the previous entrance shows a gallery for protection from weather conditions. Although the centre consists of internal spaces, shops are open to the outside. This contrasts with Cumbernuald centre where shops face the carriageway by blind walls.

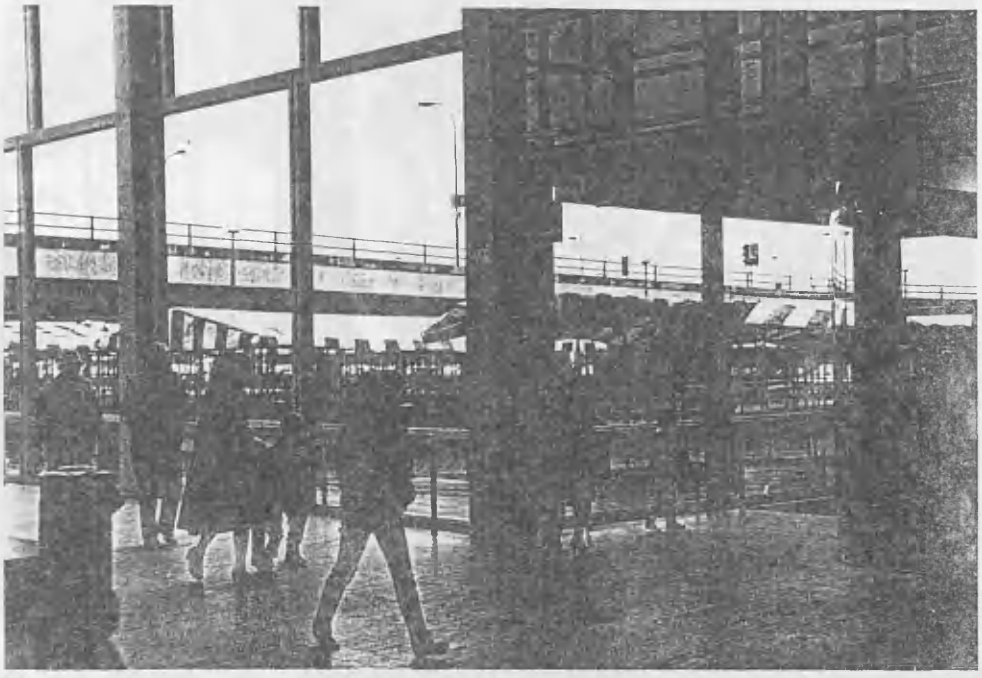


Milton Keynes A3. Ordinary entrance leading to internal spaces.

Milton Keynes A4. From the previous little entrance to an internal street, with no transitional space.
The bright light on the right leads to anticipation.

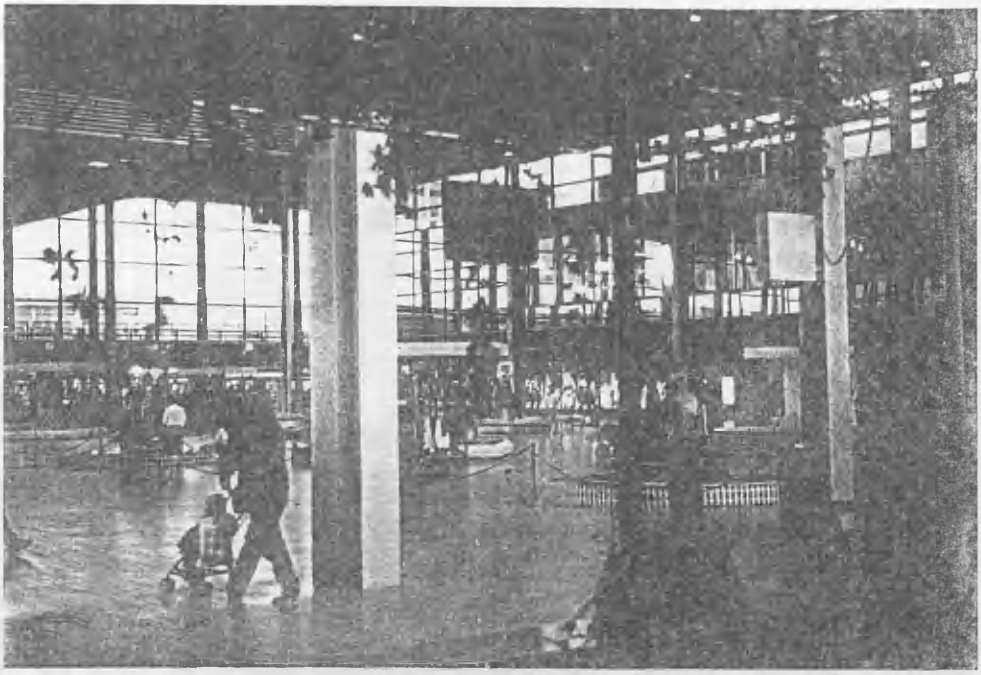


Milton Keynes A5. Midsummer arcade with totally different atmosphere produced by the daylight and transparency. The scale of the arcade is huge but it is attenuate by the use of glazing which assumes the continuity with the outside.

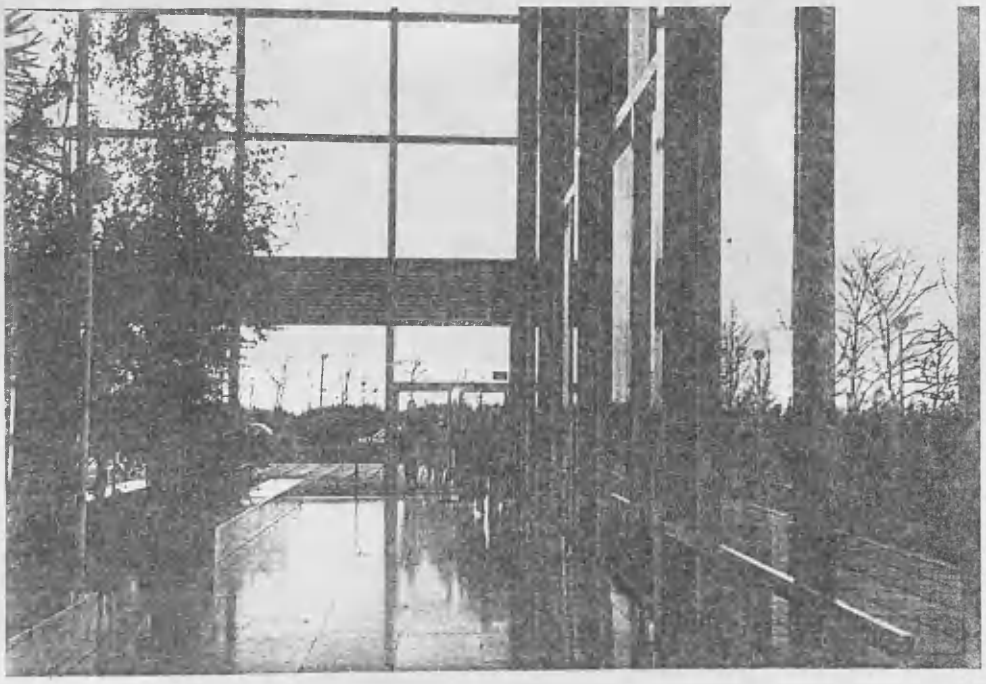


Milton Keynes A6. The market square outside the shopping area but still in visual continuity with the inside.

Milton Keynes A7. A long midsummer arcade. The use of soft and hard landscaping is generous. The repetitive elements along the frontage produce a rythm and a sense of harmony and gives each shop its identity, however, this identity is not accentuated by an imaginative individual shop front design.



Milton Keynes A8. Middleton hall used as exhibition square and much used for every kind of event.



Milton Keynes A9. The end of the arcade and the way out to a parking area.

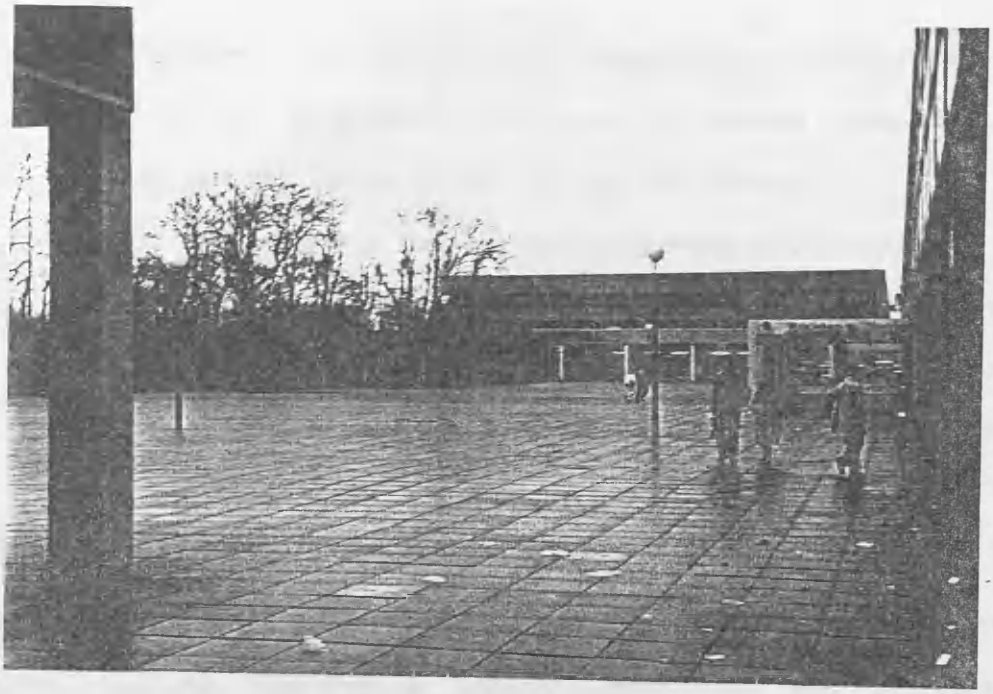
Access B

Access B presents the same characteristic as the Access A. However it has more importance since it leads to the city square.

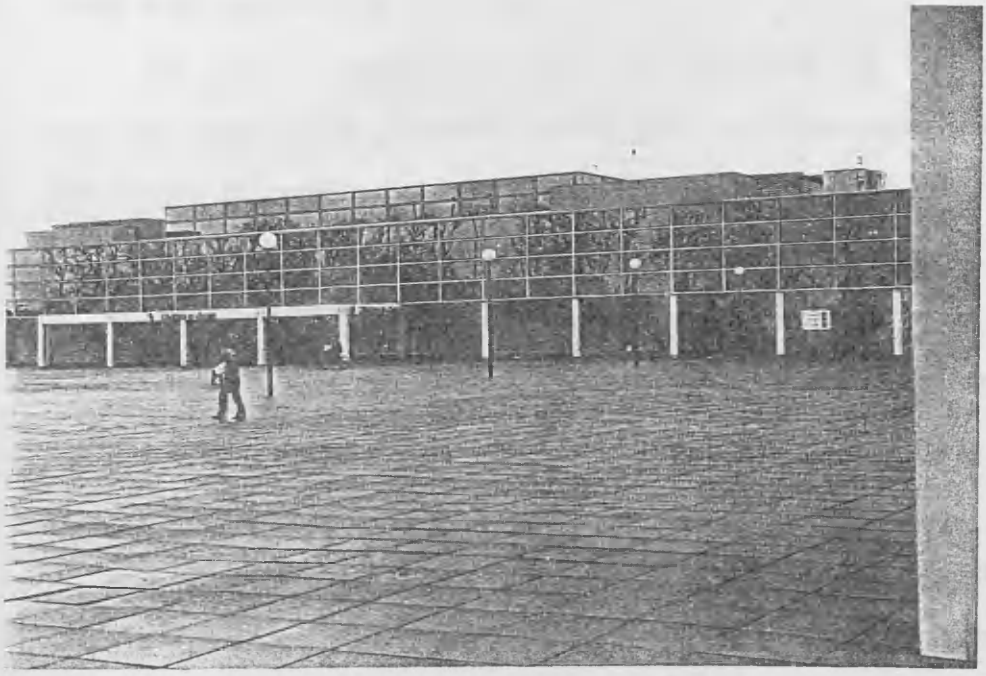
Milton Keynes B1. Contunity of the vertical elements even when the arcade is intersected by a square. This assured perfectly well the visual rythm and continuity of the arcade living the square as an anticipation.

Wherever the space in the acrade there is no specific elements that identify the place and orientate people.

Urban furnitures such as sculptures, fountains, monuments, could help in this way.



Milton Keynes B2-B3. The city square. The most dramatic scene I witnessed in Milton Keynes. The real feeling of placelessness in the so-called "city Square". The texture of the pavement empty of visual interest, no soft landscape provided, no seats and shelters. How people could use it is questionable.



Summary

Compared to Harlow and Cumbernauld, Milton Keynes city centre is of a bigger scale and of another dimension, having to serve 250,000 people by the end of the century.

It is premature to make any judgement concerning the physical form of the whole area, however, as can be seen from the plan in figure 3.1, and with a predicted three to four storey development the centre could suffer a lack of urbanity due to the large boulevards already instaured.

Functionally the centre will certainly provide by its grid armature, easy accessibility and safety for its users since a complete segregation between pedestrian and vehicles is to be achieved.

As far as the shopping centre is concerned it had already made an impact on the central area as the focus of the future centre by its design and by the variety of activities it offers.

The light structure, composed of steel and glazing, and the regular composition of rectangular blocks presents an impressive image when seen from a distance.

The whole composition of the shopping is punctuated by the two main high arcades which are the dominant features of the centre in terms of physical and functional aspects.

Linearity, as in the case of Cumbernauld, was a key work in the design of Milton Keynes shopping centre. It gave it easy accessibility by the provision of permanent openings along the perimeter.

Car parks adjacent to the centre and accessible from the boulevards surround the centre. This solution is to be adopted for every development and will certainly accentuate the wide spaces gene-

rated by the width of the boulevards. Buildings will be separated by large spaces which will destroy the urban character of the centre.

The internal organisation of the shopping centre is simple. It consists of a symetrical rectangle plan with two high arcades as main malls, punctuated by public spaces as hall, garden courtyard and by subsidiary malls.

The high arcades are naturally lit with only subdued lighting level after dark. The shop fronts being expected to be the main lighting source. The atmosphere inside the arcades is unique. The feeling of insideness with transparency and visual continuity with the outside.

The two arcades present similar design characteristics, and by being in a symetrical plan they provoke disorientation.

There is no identifiable features that distinguish one arcade from the other. Urban furnitures such as sculptures, fountains, etc. that could act as landmarks or element of point of choice and direction, are totally absent.

The scale of the arcades is huge, but it is attenuate by the effect of transparency and the daylight atmosphere.

An attempt was made to give the frontages facing the mall a certain rythm with the steel columns of the mall structure which rose full height, acting as cross wall ends to units - defining by this way what we are familiar with, a system of plot width. This had avoided the monotony of a long flat facade.

However, as in the case of Harlow and Cumbernauld, the visual impoverishment and the lack of interest derive from the shop fronts design. They present similar facias using the same standard design and material.

Landscaping had been a major factor design in Milton Keynes shopping centre. The provision of planting within the internal spaces is generous. Malls and squares are provided with seats and benches for people to enjoy the comfort and the atmosphere of the centre, especially during bad weather conditions.

On the other hand, the city square is lifeless, offering no conditions for people to use it. No seats, no shelters provided, no planting, no floorscape carefully studied. The space does not fulfill its nomination as a "city square".

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CHAPTER 4

Attributes and Deficiencies of New Town Centres

CHAPTER 4

4.1 Attributes and Deficiences of New Town Centres

After analyzing the three different town centres which belong to different generations with different concepts, one can outline the attributes and deficiencies of new town centres.

The first factor to consider is that the new town centres were built in a short period of time on almost virgin soil. This is surely an handicap at the start since history had made towns and town centres and gave them character and identity.

However, this same factor of being planned centres and built as a whole has its advantages which gave the new town centres most of their attributes.

Being planned centres, all their provisions in terms of functional aspect, design concepts, traffic system, were carefully studied, even more predictions for future development could have been made. The centres provide easy access to shopping facilities, assure absolute safe consitions for shoppers by providing pedestrian precincts which are kept completely segregated from vehicles. As far as the traffic system is concerned, it has been a fundamental and influencial factor in the design product.

The three cases studied previously present clearly different situations and different approaches in terms of traffic systems.

Total exclusion from the inner centre in Harlow, passing through and yet segregated from pedestrian precincts in Cumbernauld, forming a grided armature in Milton Keynes.

With these concepts of segregation, more freedom was given to motorists. These systems provided possibilities of high speed, less traffic lights and no congestion.

Parking areas are usually suitably located and give easy access ot the centres. Servicing is a delicate problem, especially where the concept of pedestrian precinct is strong. However, the new town centres by and large have succeeded in providing good servicing.

The great disappointment of new town centres is mainly on the architectural side. They are usually poor and boring. The buildings composing their streets and squares are empty of any symbolic meaning and always fail in giving them a sense of place and identity.

Movement, interest and excitement is what must result from the design and the disposition of buildings enhanced by the provision of incidental features that excite the observer.

The new town centres in general have none of these qualities. They are empty of visual interest.

The similar design frontages of the streets and the use of the the same materials make streets anonymous with no impact on the urban scene. Squares are enclosed by meaningless architecture buildings that never offer a visual relief.

With this lack of architectural language, signs and lights became the fundamental elements acting as landmarks and visual excitement. The Metropolis Professor Kevin Lynch says "It is continually 'talking' to the observer; it is full of written or pictorial symbols, directing, informing, exhorting. The chatter must be controlled so that the voices can be heard." (1)

In the early 1980's, there was a strong reaction towards the identify of new towns and their centres. Architects and urban designers came up with a new idea which consisted of integrating new development, within an old and existing urban fabric, which could offer the prospect of a more varied and exciting urban scene.

This was experienced for the first time in a Scottish new town: Irvine.

Situated in the west coast, about 24 miles (38 km) from Glasgow, Irvine old town dates from the thirteenth century and started as a royal burgh. Like any other old town Irvine went through different historical stages which gave it its special character and identity.(1a)

The plan of old Irvine (figure 4.1) consists of a major street (High Street) along which variety and visual interest rise from stone buildings of all periods (figure 4.2).

From the middle of High Street goes another historical street (Bank Street), making the cross roads the focal point of the centre where the traditional shopping area is located. The main aim of integrating the new development to the old centre was the maintenance of the unity, character and identity of the town.

The new town centre consisted of a linear development which extends from the old town cross roads, across the river towards the railway station and the harbour. It was grafted on the existing High Street as one arm of the traditional cross roads (figure 4.3).

The continuity of Bank Street to the new development leads to Bridgegate Square, a major connecting space between old and new development. Bridgegate Square, an irregular square, is structured by one of the most powerful urban elements of the town, The Trinity Church which acts as a landmark for the square and the new development (figure 4.4).

The square is composed on one edge by the Trinity Church and old buildings presenting a plot width system and variety in the design on the other edge the new development (figure 4.5).

Fig. 4.1 - Plan of Irvine, 1900.

Fig. 4.2 - Irvine. Stone building of all periods offering variety and visual interest.

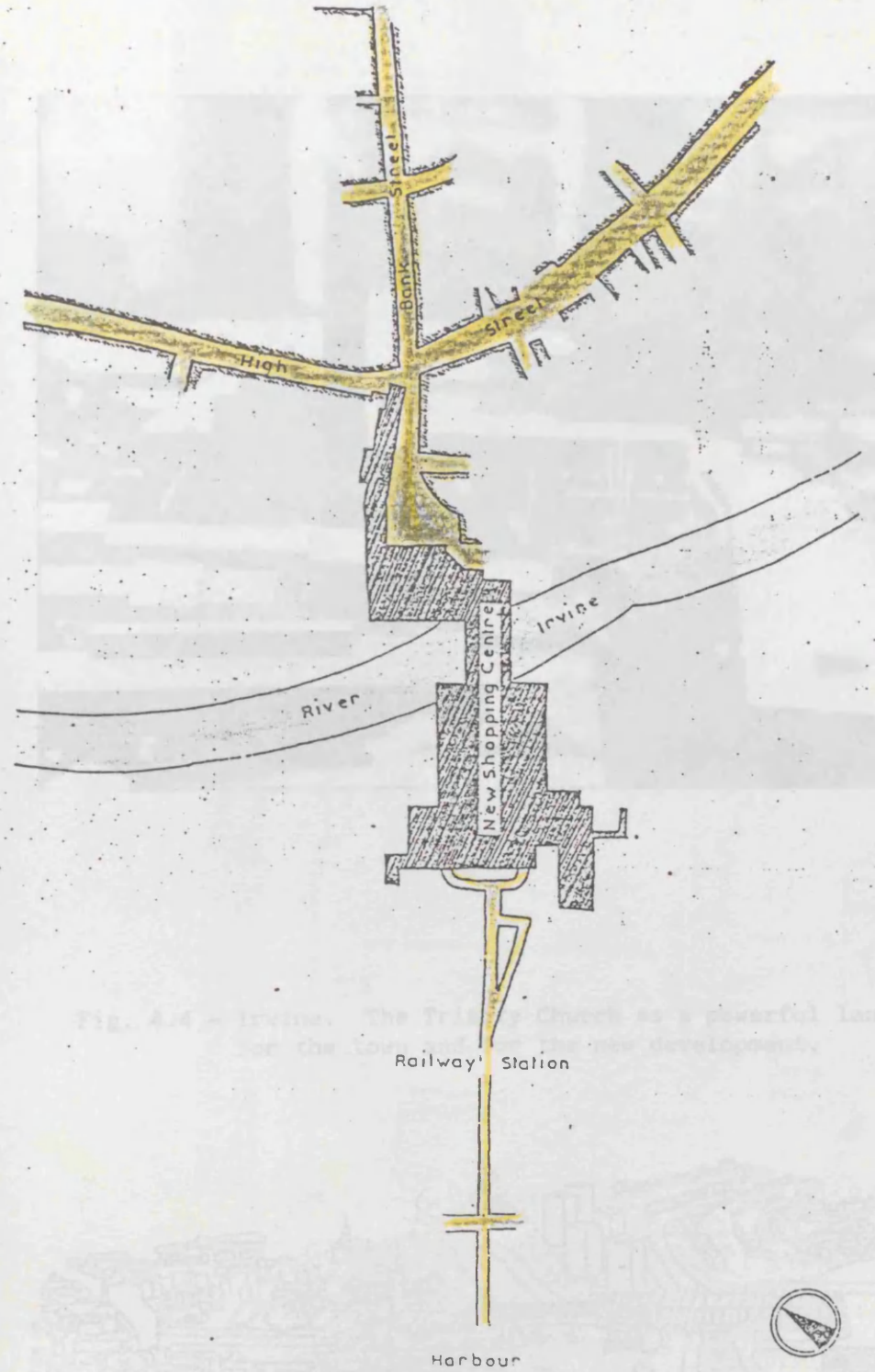


Fig. 4.3 - Irvine. The new development as a continuity of the old centre.

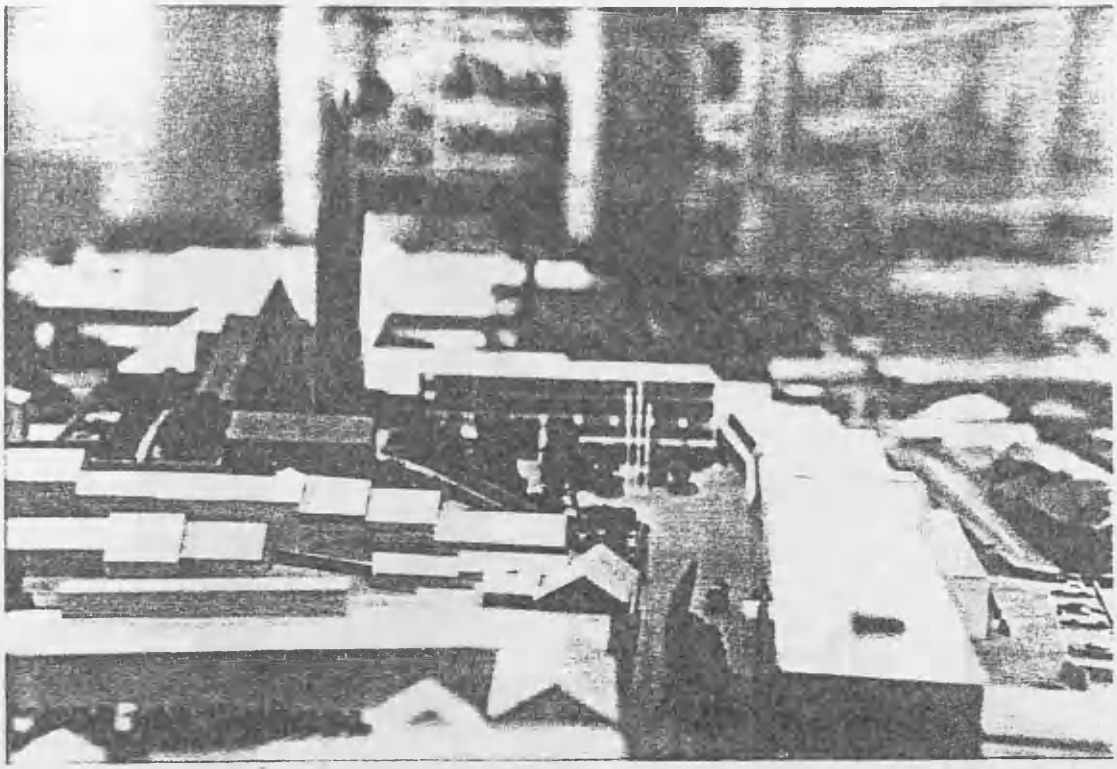


Fig. 4.4 - Irvine. The Trimity Church as a powerful landmark for the town and for the new development.

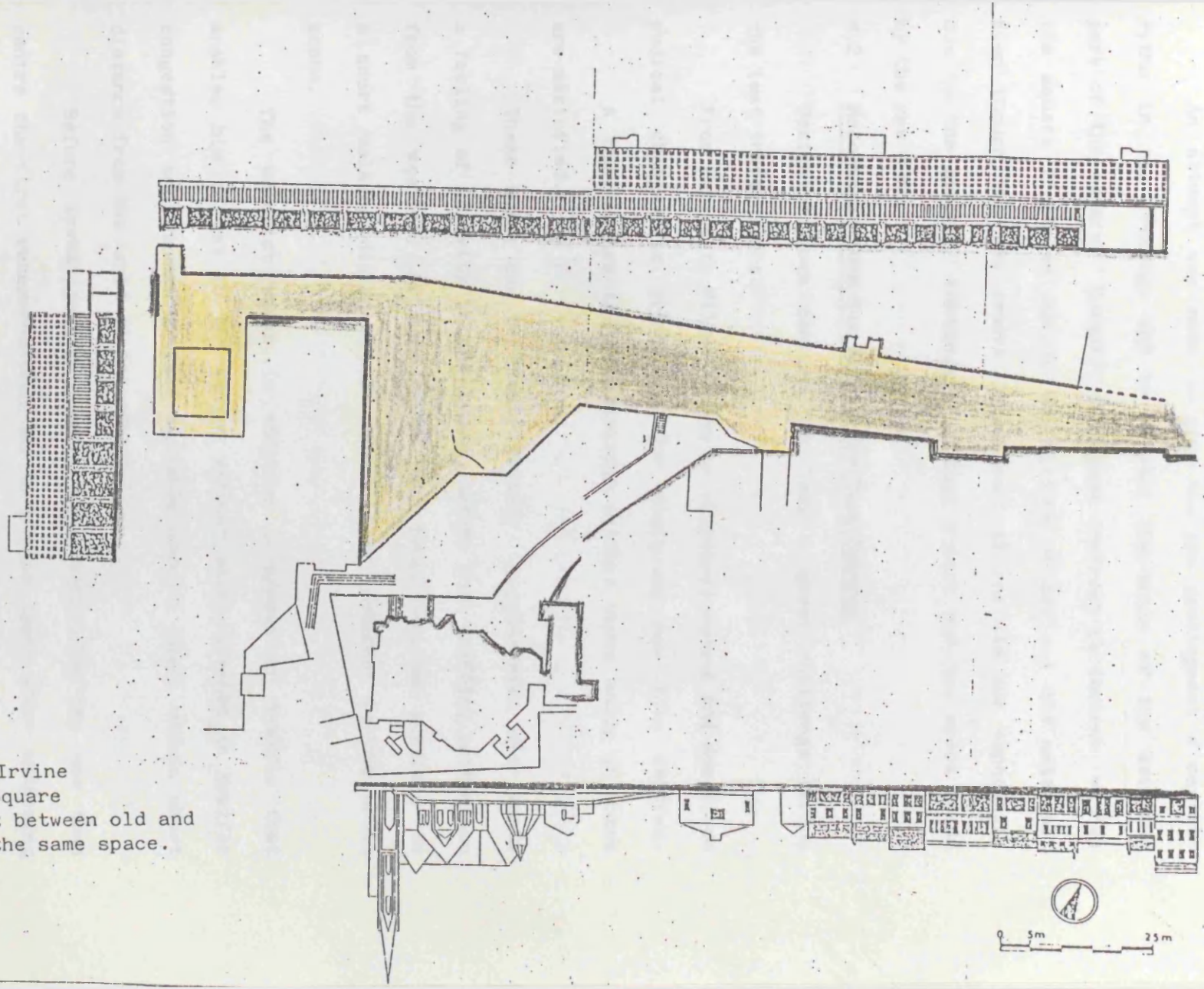


Fig. 4.5 Irvine
Bridgegate Square
The contrast between old and
new within the same space.

An attempt was made to give the new development a certain rythm in the frontage and to respect the scale of the existing part of the square. However, the visual contrast is obvious within the square frontages due to the mixture of new and old material. Even though the new centre became part of the old one especially due to the spatial continuity of Bank Street and the cross roads by the new centre.

4.2 Recommendations for Future New Town Centres

Designing town centres has been a great challenge during the last thirty years.

From Harlow to Milton Keynes we witnessed several and sometimes radical changes in principles for designing new town centres.

A town centre is by definition a place where needs of users are satisfied.

These needs can be simply stated. A pedestrian user wants a feeling of activity in the centre, safety from traffic, protection from the weather, as many shops and facilities as possible in a short walking distance and a variety of interest in the urban scene.

The motorist wants in addition a system of traffic that enables him to get to the centre without being blocked in traffic congestion and wishes to find suitable parking areas within short distance from the heart of the centre (2).

Before investigating design requirements for the new town centre the first recommendation one must think about after analyzing the three new town centres, Harlow, Cumbernauld and Milton Keynes, is whether the future new town should be built around a single strong centre or with a multitude of sub-centres.

The idea of sub-centres experienced in Harlow showed that the vitality of the town centre was sapped by the competitive sub-centres. On the other hand Cumbernauld's single centre has its own disadvantages in terms of non-flexibility should the town expand.

For more convenience for people and better coherence of the town it might be more interesting to opt for a single centre as a focus of the town and local shops for everyday needs dispersed over the residential area. However, the centre as a single entity should be flexible enough to accommodate change and development.

4.2.1 Plannning the Centre

4.2.1.1 The Functional Dimension

The centres we have already analyzed present a common feature that has imposed itself in the design of new town centres.

Whether in Harlow, Cumbernauld or Milton Keynes (shopping centre) the centre revolves around the mall, the natural successor of the High Street. The basic characteristic of the mall is pedestrianisation in a planned centre.

The mall became the predominant element setting the scene and providing at the same time safe, relaxed, comfortable, easy to follow circulation routes for its users.

This system of mall has been expressed in many ways in the planning of new town centres. Harlow presented an open town centre with a principle mall (Broad Walk) open out on the two squares (civic and market square). Some subsidiary malls of varying width (little walk as an example) contribute to the infrastructure of the centre.

Cumbernauld and Milton Keynes provide enclosed malls in multi-level and single structure. The urban approach of the mall was at first sight little more than a technical solution to a problem of circulation but became a great achievement in town centre design. The space between buildings was no longer simply a circulation route but became a positive setting for public life.

However, the direct consequences of pedestrianisation is the solution to adopt for the parking facilities and servicing.

4.2.1.1.1 Car Parking

As we have seen through the analysis, different concepts and solutions for car parking were adopted in Harlow, Cumbernauld and Milton Keynes.

As ground level car parking that became multi-level as a result of intensification in Harlow or loading spaces under the structure in Cumbernauld or just adjacent parking areas to the boulevards and shopping entrances.

Whatever the solution, parking is to be sensitively designed as part of the centre composition, welcoming and easily identified at entry points with easy access to the heart of the centre.

Ground level parking is preferable in terms of distance between customers cars and principle places when the centre is not very large, otherwise the requisite parking space at one level may be uneconomic in terms of land use. Thus multi-level, subterranean or roof deck parking may have to be considered (exp. Cumbernauld). Multi-level car parks can, without design control, dominate the centre and destroy its character and scale. Harlow has experienced this phenomenon when ground level car parks were transformed into multi-levels.

4.2.1.1.2 Servicing

Delivery and despatch of goods to individual units is the lifeblood of the centre. Servicing vehicles must have easy slip routes from main transport throughways to unloading bays. When pedestrianisation is considered, servicing must be separated from, and if possible, unseen by customers.

The method of servicing depends very much on the solution adopted in the design of the centre. It could be done at the rear of buildings or might be combined with car parking arrangements.

In the case of a multi-level centre, vertical servicing may have to be provided by goods lifts. Milton Keynes designers came up with the original idea as far as the British new towns are concerned by segregating service roads vertically, allowing vehicular access to the private service road at first floor level which serves the shops.

4.2.1.2 The Visual Dimension

The visual aspect and design character of a centre is largely the product of an intricate resolution of ideas and requirements, between the developer, agent, architect, other consultants and ultimately the tenant traders. It is an amalgamation of these skills, where the Architects contribution is paramount, balancing constraints and alternatives to produce an aesthetically successful solution. Commercial, financial and legislative constraints are of great impact in the design of centres and need proper investigation and analysis. Taking broadly these factors into account, the following is more about the visual dimension and aesthetical devices of new town centres.

The overall composition of a centre must present an impressive appearance and perform as the focus of the town, with a punctuated skyline that reflects the vocation of the centre and creates visual focus points to specific spaces such as town square or market place (Harlow).

As far as the spaces within the centre are concerned, the aim of any designer is to create an atmosphere of interest, intimacy and yet of activity. This could be done at the start by designing public spaces as a combination of malls and squares leading to surprises and anticipation.

The feeling of activity will be partly produced by the crowd using these malls and squares but must be heightened by variety in the mall frontages and shop front designs. The image of a street in people's minds is closely related to the urban spaces of old towns. High Street is a good reference. It has traditionally consisted of a continuing line of shop frontages of appreciated scale offering interest, encouragement and a known dimension of the pedestrian (3).

Technology, commercial pressure and new materials have created monotonous urban spaces lacking the contrast of individual spontaneity of design with street plot width offering just repetition and regularity and expressing a bland lack of identity.

The new town centres in general have suffered this lack of variety and aesthetic effects in their built town design due to the fact that they were cosidered and designed as single projects by the development co-operations.

This is by no means saying that we should build our centres as they did centuries ago. However with the use of technology and the range of new material available, we might produce successful centres using what we could from the past in terms of townscope.

As previously indicated the mall has proved itself as a structural element in the new town centres. The three centres analyzed all revolved around the mall.

The Mall Design

There are two specific categories of mall, the open mall as was the case of Harlow and the enclosed or covered mall, Whether multi-level or single level as were respectively in Cumbernauld and Milton Keynes.

An essential feature of the open mall centre is the provision of covered walkways for protection from bad climatic conditions.

These may be provided by extending the first floors over part of the pavements, or by some form of canopy. The design of the canopy may offer an opportunity to the designer to create a main design feature. In the covered mall, there is no need of protection from climatic conditions. However, there is a crucial factor to consider in the design, which in the daylight, if daylight is to be considered to light the mall, it will probably be either by clear-storey or by roof light or both. Milton Keynes is a good example where daylight was fully used. The daylight factor has a great impact on the design of the vertical section of the mall whether multi-level or single.

The height of main and subsidiary malls will be a dominant feature of the design due to the light and volume necessary which are closely related to the height and width of the mall. Milton Keynes experienced this solution.

The introduction of some daylight, even subsidiary, in an artificially lit centre contributes to the attraction of the centre by maintaining contact with the outside environment and gives glimpses of points of reference and of special interest. The main mall in Cumbernauld (Teviot Walk) has this characteristic, where "squares" are lit naturally in a fully artifically lit space. This creates a change in atmosphere and ambiance.

Whether an open or enclosed mall centre, the design has to respond to what people expect from a centre in terms of visual attraction.

The main consideration of this visual aspect is the three dimensional character of the centre. Firstly the mall as a pedestrian precinct has to offer surprises and anticipation by punctuations. Punctuations along a mall can be achieved by opening out into squares (market square for instance) or just into rest and recreation areas with seating, cafe, etc. to break the monotony of long unbroken walls.

The kind of square that enhances the vitality of the centre and improves its environment is the market square. Harlow made it the focus of the town, Milton Keynes gave it an adjunct function of shopping centre, Cumbernauld ignored it.

The main characteristic of the market is that it is a public area whether open or covered. It presents traditional ways of shopping offering a special atmosphere and ambiance.

The simplicity of the market stalls is part of the essential character leading a complete contrast to the remainder of the centre.

The malls and squares as structural elements of new town centres are to offer visual interest and excitement from the buildings surrounding them. Shop and upper floor front designs represent the major design draw of the centre. It gives character and identity when variety, rythm and harmony are present.

This could be achieved at the start by imposing a system of plot width and leaving the building and shop front designs within the centre framework to the individual owner or trader and his architect; so that each building and shop front could identify itself in its own way using its chosen material. However, to avoid anarchy, careful overall control is necessary to ensure the unity of the centre in terms of scale and overall composition, considering the height of buildings, the rythm within the mall frontage, even more the openings.

These considerations could certainly improve the visual qualities within new town centres and contribute to their character and identity. The visual interest and excitement, apart from building and shop front designs, could be enhanced by the provision of urban furnitures such as sculptures monuments, located in such a way to ease the legibility of the centre.

Street furnitures such as telephone kiosks, post boxes, litter bins, seats, etc. could have a great impact on the urban scene when carefully positioned in the environment (4). Another feature that has imposed itself as an essential requirement in the design of centres is landscaping, whether hard or soft.

Hard landscaping concerns the floorscope, parking, steps, changes of level, ramps and could be very effective in assisting the functions of the centre. The use of colour and patterns in the floorscope could contribute to the overall scene both aesthetically and as an indicating guide to the use of space.

Soft landscaping deals with planting. Its provision is necessary, especially along malls, whether open or enclosed in improving the quality of the urban environment. Usually places look friendly and less aggressive when planting is provided.

Urban and street furniture and landscaping are essential elements in centre composition. They should not be taken as additive features to the centre but need to be considered and designed in the scheme from the start like everything else.

Summary

The main objective of any designer is to create an atmosphere of liveliness and activity - to offer variety and interest and to give identity and character to the centre he designs.

If the previous recommendations are to be guidelines, I would define the following in a personal and subjective way as key points in designing features of new town centres and ensuring their unity, identity and character.

1) The centre should be a single entity and should provide visual focus for the town.

2) The centre should be a mixture of internal and external spaces, whether single or multi-level.

3) The centre should be compact to avoid large open spaces and to provide a sense of urbanity.

In Terms of Functional Dimension

1) The precincts within the centre should be pedestrian.

2) Car parking facilities should be provided and carefully located.

3) It should have good servicing with no interference with the pedestrian areas.

4) Comfort and protection from the weather should be provided.

The Visual Dimension

1) Malls should be punctuated by squares and rest and recreation areas.

2) Malls should contain urban and street furniture acting as elements of reference and landmarks.

3) It should have a variety in mall frontages, including shop fronts.

4) Freedom should be given to individual traders and architects to express themselves.

5) Scale should be controlled so that buildings will be in harmony with enclosed open spaces.

6) Landscaping should be taken as a design factor from the start of the scheme.

4.3 Proposal for Cumbernauld Centre

The choice of Cumbernauld centre as a field of intervention is due to the fact that among the three centres analyzed, it is the one which suffered the most development problems due to financial reasons.

The original concept, which was a sensation worldwide as the revelation of modern urban town planning was never respected, leading to what became the worst example of new town centres. The main negative points that emerge from the existing and commited central area are:

Firstly - The isolation of the centre from the residential area.

Secondly - As was previously indicated in Chapter 3, the visual impoverishment within and outside the centre.

From the outside the centre does not present any particular element that punctuates its skyline. Even more depressing are the superfluous spaces surrounding the centre, left with no particular function and no relationship to the internal spaces.

These internal spaces are anonymous and show a lack of variety and interest in the malls three dimensional design.

The malls are punctuated by squares which do not perform their function as meeting places but are just transitional spaces where one is not tempted to stay but just to pass through.

In this matter Cumbernauld has failed in providing meeting places for people such as traditional market square or malls where people can gather.

Another major weakness is the provision of landscaping which was almost ignored inside and outside the centre.

4.3.1 Objectives

The objectives of the proposal are to respond to the negative points previously indicated.

Firstly, residential areas will be integrated within the central area. Secondly, spaces will be created to improve the urban environment and give the centre a new identity.

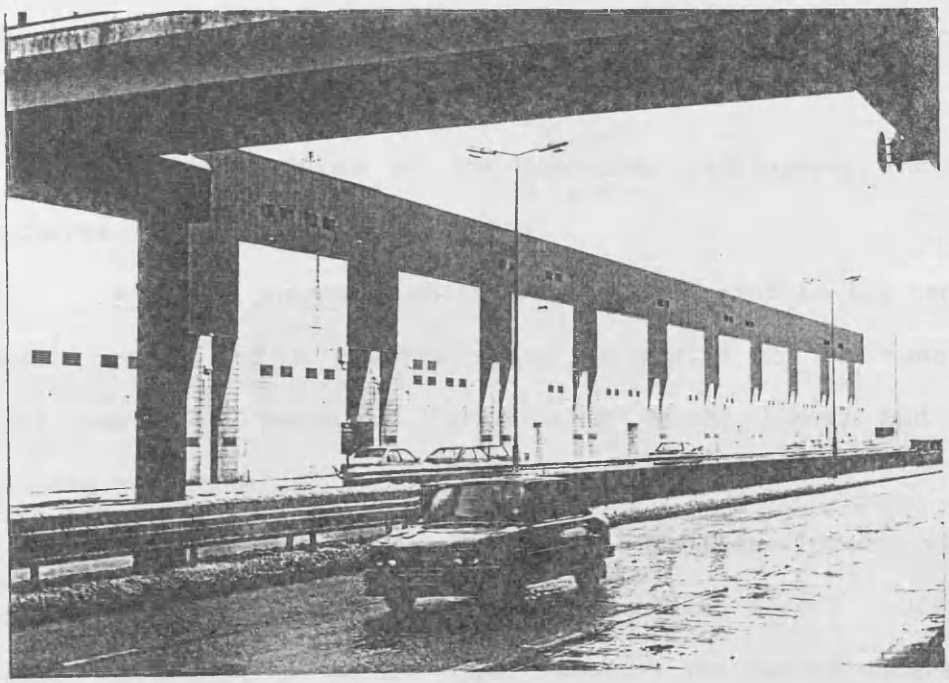


Figure 4.1 - Cumbernauld. View of the dual carriageway

Behind the blank frontage (figure 4.1) lies the busiest mall in the centre, Teviot Walk. This picture of the centre turning its back to the carriageway made me think in terms of relationship between the inside and the outside and what we can do to link them in prospect to improve the urban qualities of the centre.

4.3.2 The Plan

The plan consists of opening the blank frontage of the centre to the dual carriageway which will be converted into pedestrian malls and squares.

The through traffic will be rerouted around the centre by existing spin road.

It is certainly a sacrifice of such a perfect traffic system, but when the quality of people's lives is concerned traffic could find another alternative.

The composition of the converted carriageway includes two squares.

A market square - which is so much needed in the centre. It will consist of a covered space contrasted to the remainder of the centre in terms of form (using curved lines) and material (using red brick).

It will be surrounded by three level development with small shops for traditional trade on the ground floor. Offices and other uses will be on the upper floors. The market square will be situated at the western part of the centre.

An Atrium square

Atria allow people and buildings to breath, they hand back some of the light and sunshine that internal spaces have taken away from the streets (5).

It will be situated at the eastern part of the centre in continuity with the main ground retail floor. Some of the shops facing the atrium will be converted into cafes and restaurants to participate in the life of the square.

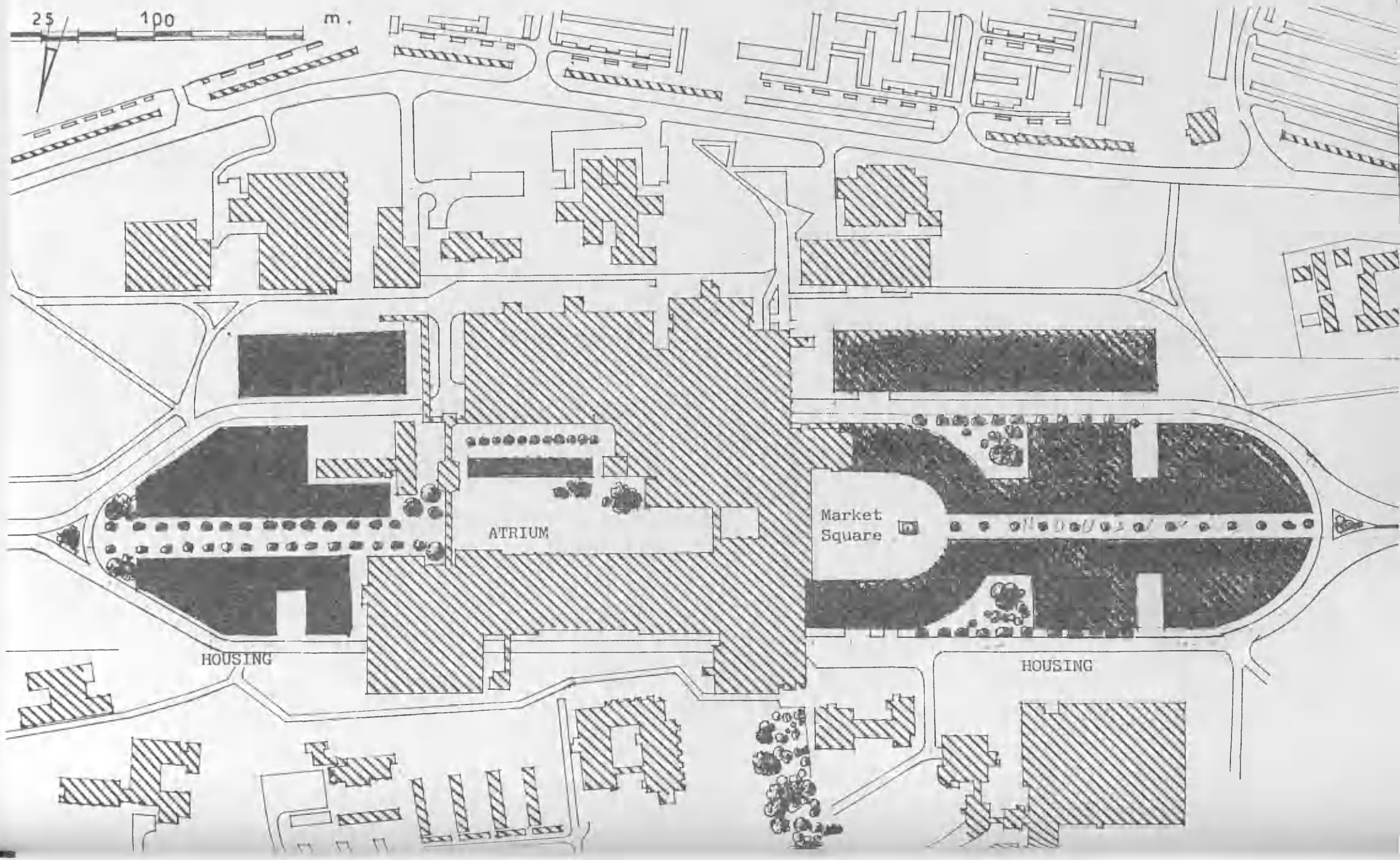
The market and the atrium roofs will be high structures composed of iron and glass, allowing natural light and sunshine to enter and providing bad weather protection. The roof structure designs are to make an impact on the centre's skyline.

The paving will be contrasted by different materials such as brick and stones for a change from the dead concrete.

Urban and street furnitures will be included in the malls and squares and soft landscaping will be a major factor in reinforcing the relationship of the inside with the outside.

In both ends it will be residential areas which will consist of two-storey blocks with small shops on the ground floor facing the malls and making the entrance to the centre through the atrium square or the market square. Bus stops will be at both ends at the entry points to the centre.

On the south side developable site, with parking areas on the ground floors, could meet the needs of the centre extention.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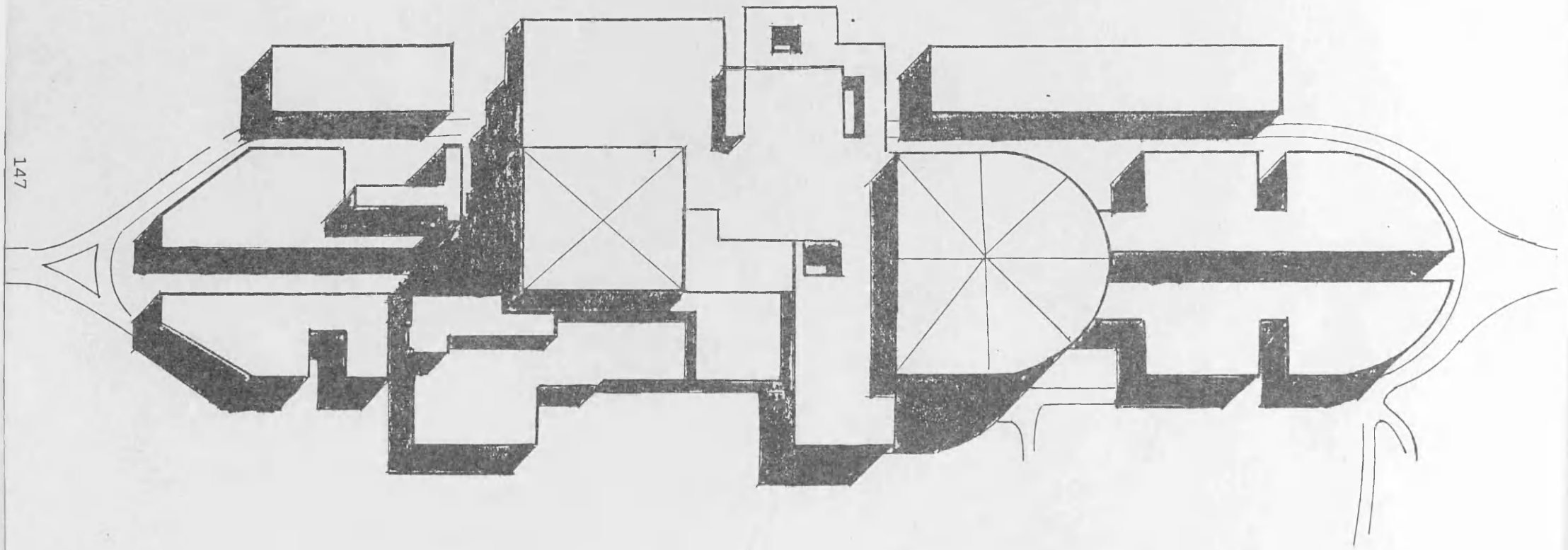

Figure 4.7 - Axonometry of Cumbernauld Centre with the proposal. The market square and the atrium volumetry as new elements punctuating the centre skyline. Scale 1:3000

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